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TUBERCULOSIS
CHART SERIES

1962

COMMONWEALTH OF PENNSYLVANIA

Department of Health

This is the second edition of the

Pennsylvania Tuberculosis Chart Series

The first edition was published in 1959

TUBERCULOSIS CHART SERIES

The statistical aspects of tuberculosis in Pennsylvania are presented in this Tuberculosis Chart Series. The data included represent material derived from a number of sources and are designed to provide information for use in planning future programs. As new facts and figures become available each year, it is planned that periodic revisions of the Chart Series will be published.

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Pennsylvania Department of Health

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Tuberculosis Chart Series - 1962

A presentation of selected data
on the current status and trends
of tuberculosis in Pennsylvania

Department of Health, Commonwealth of Pennsylvania
Bureau of Special Health Services
Division of Tuberculosis Control
Harrisburg, Pennsylvania
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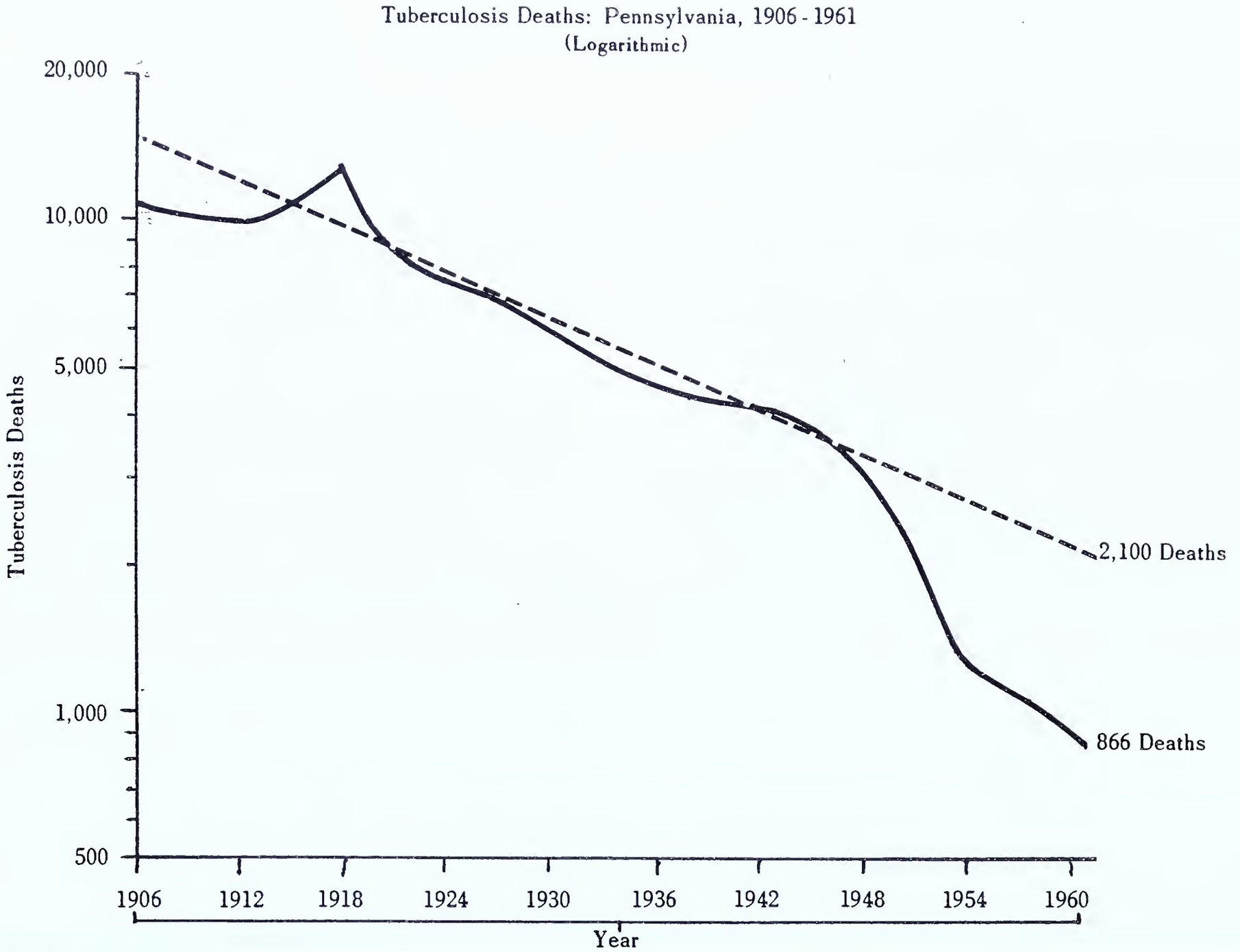

Tuberculosis Deaths: Pennsylvania, 1906 - 1961
(Logarithmic)
20,000
10,000
5,000
1,000
500
Tuberculosis Deaths
2,100 Deaths
866 Deaths
1906
1912
1918
1924
1930
1936
1942
1948
1954
1960
Year

Chart 1

TUBERCULOSIS DEATHS - PENNSYLVANIA, 1906-1961

The trend in the number of deaths and death rate for tuberculosis in Pennsylvania had been downward since 1906, however, the decline became much more rapid beginning about 1947. This change in the trend followed the discovery and use of the antimicrobial drugs, particularly streptomycin, isoniazid and p-aminosalicylic acid, and is allied with the skill of the thoracic surgeons, chest physicians, the medical profession in general, public health physicians and nurses. Without the success in the treatment of patients with tuberculosis which has been possible during the past 16 years, there would have been an estimated 39,550 deaths from tuberculosis in Pennsylvania instead of 23,312 deaths during this period.

During 1961, there were 1,234 fewer deaths than would have been expected had the trend that was present prior to 1947 continued. Without the advent of these new methods of treatment of tuberculosis there would have been a death rate of 19.0 per 100,000 population, with approximately 2,100 deaths in 1961. Instead, the death rate in 1961 was 7.6 per 100,000 population, with only 866 deaths.

Text for Chart 1

Newly Reported Tuberculosis Case and Death Rates (All Forms) Per 100,000 Population, Pennsylvania, 1906-1961
(Logarithmic)

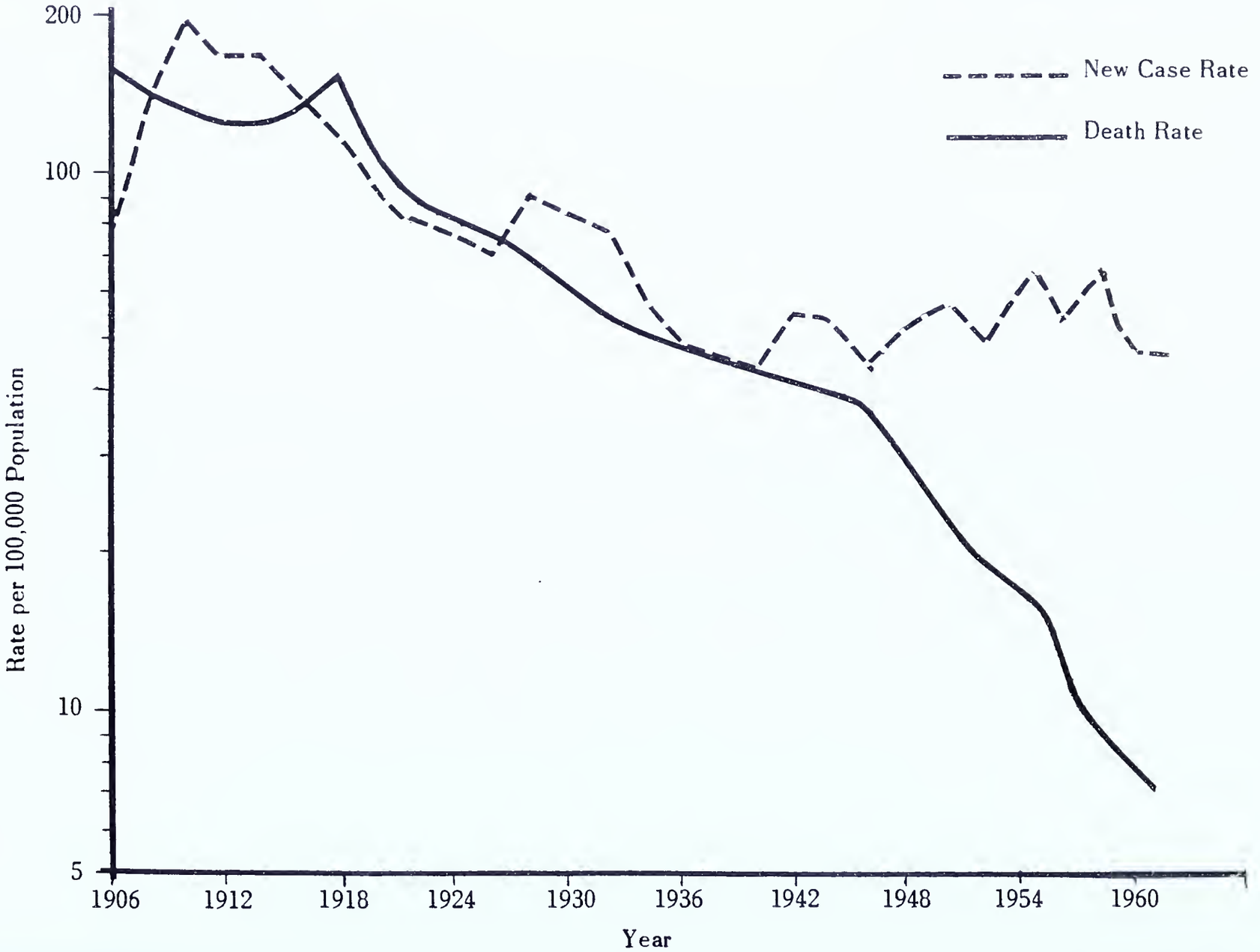


Chart 2

NEWLY REPORTED TUBERCULOSIS CASE AND DEATH RATES (ALL FORMS) PER 100,000 POPULATION, PENNSYLVANIA - 1906-1961 (LOGARITHMIC)

Although the newly reported case rate for all forms of tuberculosis fell from 1906 until 1940, this trend has not continued in the past twenty years. The rate is now higher than it was in 1940 (43.1 in 1940 and 46.4 in 1961); however, since 1958 a definite decline in the rate has been evident. This is also true of the new active case rate. In contrast, the trend of the death rate for all forms of tuberculosis has fallen sharply since 1947, the beginning of the era of modern therapy.

YEAR	TUBERCULOSIS CASES		TUBERCULOSIS DEATHS		YEAR	TUBERCULOSIS CASES		TUBERCULOSIS DEATHS	
	Number	Rates	Number	Rates		Number	Rates	Number	Rates
1906	5,234	73.4	10,804	151.4	1938	4,559	46.3	4,381	44.4
1908	10,418	140.6	10,226	138.0	1940	4,276	43.1	4,252	42.9
1910	14,572	189.5	10,285	133.8	1942	5,440	54.3	4,187	41.8
1912	13,084	165.5	9,872	124.9	1944	5,444	53.8	4,020	39.7
1914	13,432	165.4	10,212	125.7	1946	4,459	43.6	3,697	36.1
1916	11,305	135.6	11,088	133.0	1948	5,558	53.6	3,076	29.6
1918	10,115	118.2	12,944	151.3	1950	6,051	57.5	2,474	23.5
1920	8,238	93.9	9,213	105.0	1952	5,213	48.6	1,846	17.2
1922	6,375	71.3	8,018	89.6	1954	6,774	62.2	1,222	11.2
1924	6,258	68.6	7,533	82.6	1955	7,062	63.4	1,237	11.1
1926	5,584	60.1	7,399	79.5	1956	5,987	53.8	1,118	10.0
1928	8,691	91.9	6,767	71.5	1957	7,141	62.9	1,026	9.2
1930	7,202	74.8	5,969	62.0	1958	7,115	64.1	1,016	9.2
1932	7,804	80.6	5,411	55.8	1959	5,801	51.2	980	8.7
1934	5,377	55.2	4,976	51.1	1960	5,363	47.4	902	8.0
1936	4,844	49.4	4,713	48.1	1961	5,320	46.4	866	7.6

Note: Mortality figures prior to 1940 are the number of persons dying from tuberculosis in Pennsylvania; the 1940 and subsequent figures are Pennsylvania residents dying from tuberculosis.

New Active Tuberculosis Case Rate, 1955-1960, and Projection to 1970, Pennsylvania
(Logarithmic)

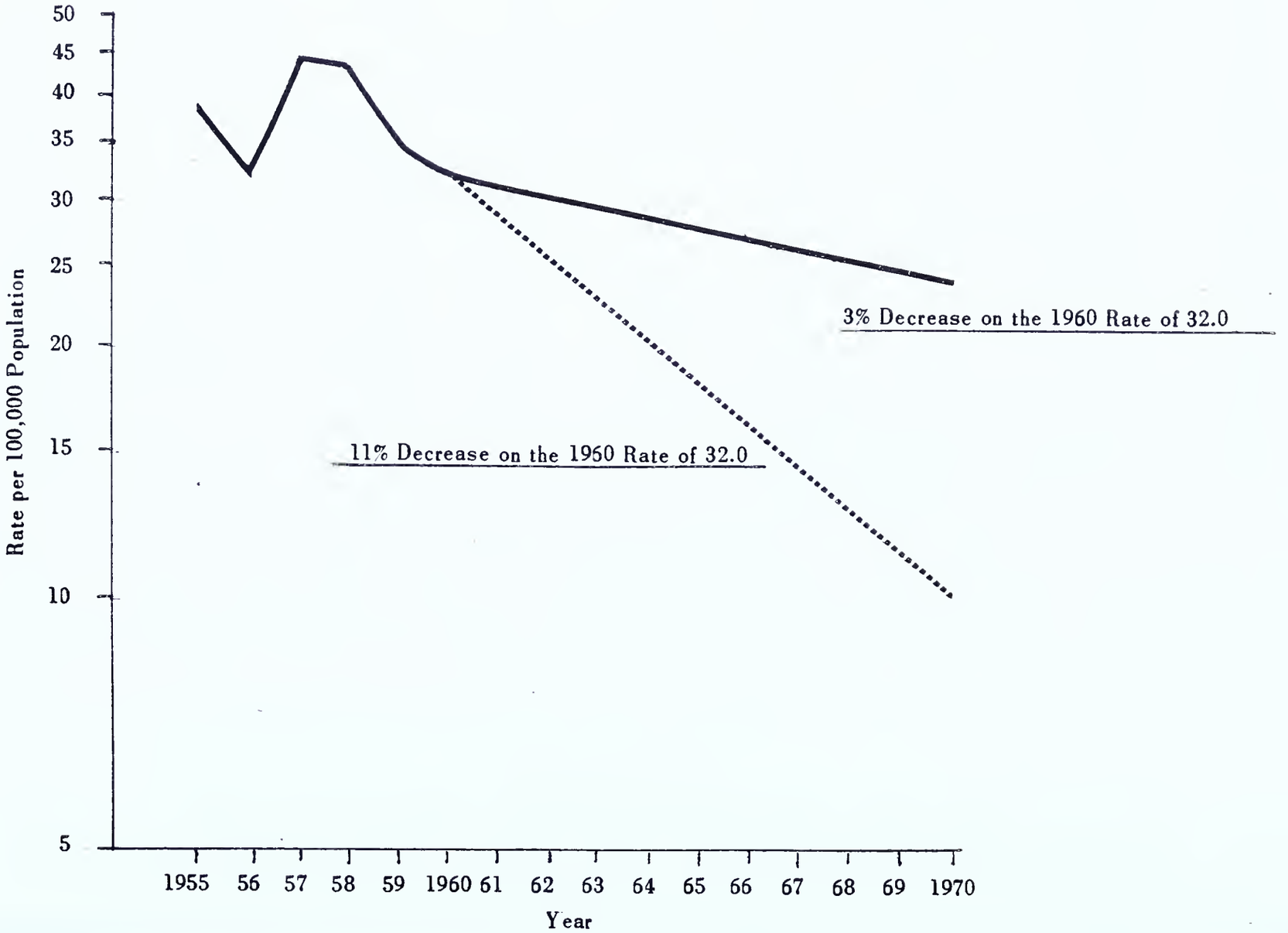


Chart 3

NEW ACTIVE TUBERCULOSIS CASE RATE - 1955-1960, AND PROJECTION TO 1970, PENNSYLVANIA

In 1960, the Pennsylvania Department of Health, in accordance with the recommendations of the ad hoc Committee on Goals and Standards in Tuberculosis Control, United States Public Health Service, set an intermediate goal for the eventual eradication of tuberculosis in the Commonwealth: a decline of the new active case rate from 32.0 in 1960 to 10.0 per 100,000 population by 1970.

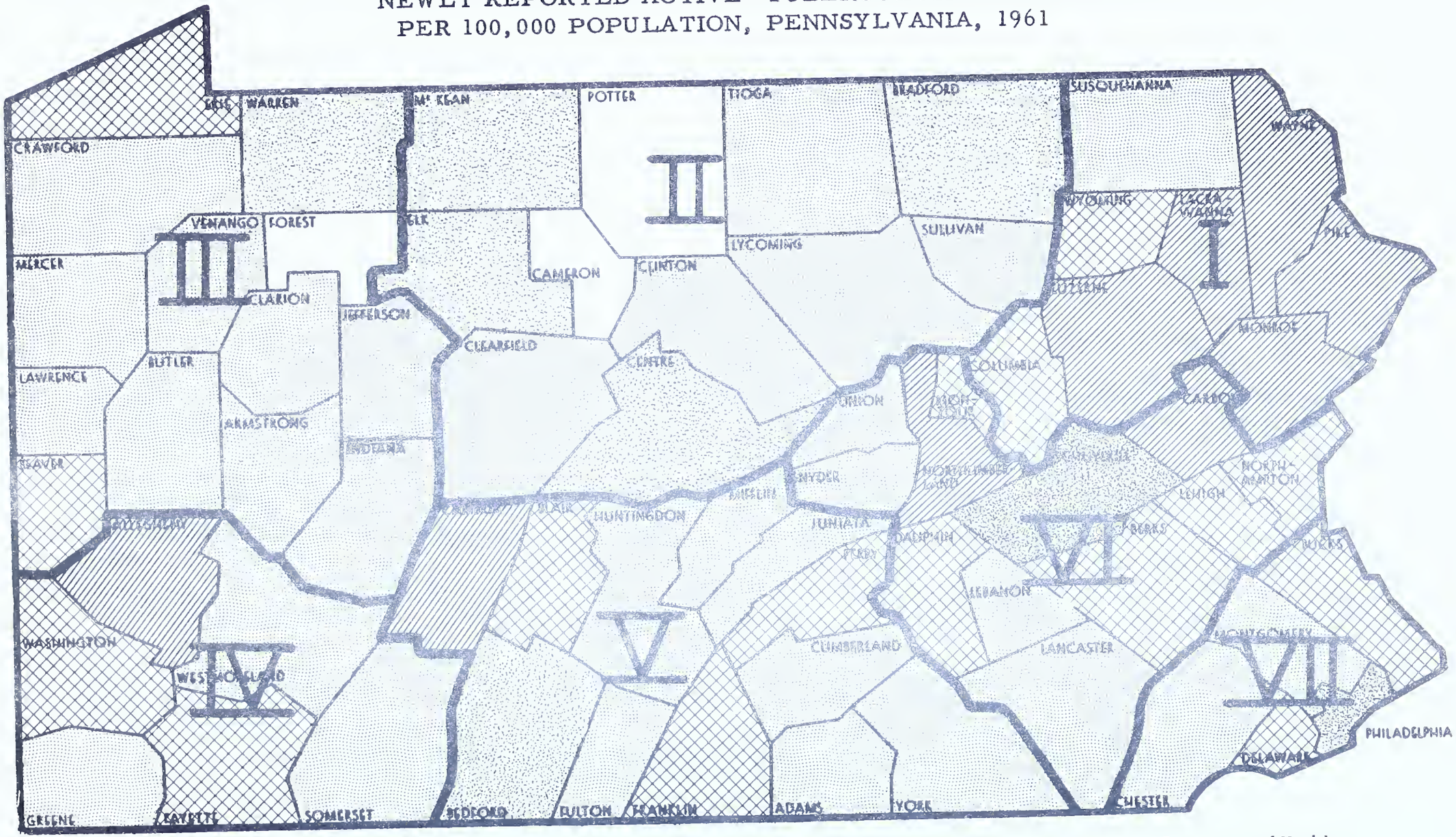
Since 1955, the new active case rate has dropped from 38.2 to 32.5 in 1961, with an average of less than three percent per year. The solid line shows that if the decline continues as it has during the period 1955-1960, the case rate for Pennsylvania in 1970 will be 23.6 per 100,000 population. The broken line shows the direction the case rate will take if the decline is accelerated to 11 percent per year, the average decline required if the goal for 1970 is to be attained. This represents a decline of over three times as much each year as there has been in the past five years.

In 1961 there were 3,732 new active cases of tuberculosis reported in Pennsylvania. Even if the intermediate goal of a new active case rate of 10.0 per 100,000 population is attained, there will still be approximately twelve hundred new cases reported in 1970.

Note: The United States Public Health Service estimates this new case number to be 1,342, for Pennsylvania, in 1970.

Text for Chart 3

NEWLY REPORTED ACTIVE* TUBERCULOSIS RATES PER 100,000 POPULATION, PENNSYLVANIA, 1961



CASE RATES BY COUNTIES

3 Counties – No Cases Reported

6 Less than 10.0

31 10.0 to 19.9

16 20.0 to 29.9

9 30.0 to 49.9

2 50.0 to 72.4

* Includes Probably Active Cases

I to VII Regional Areas - Department of Health

1961 Pennsylvania Case Rate - 32.5

1960 (Final) United States Case Rate - 30.8

1961 (Provisional) United States Case Rate - 29.3

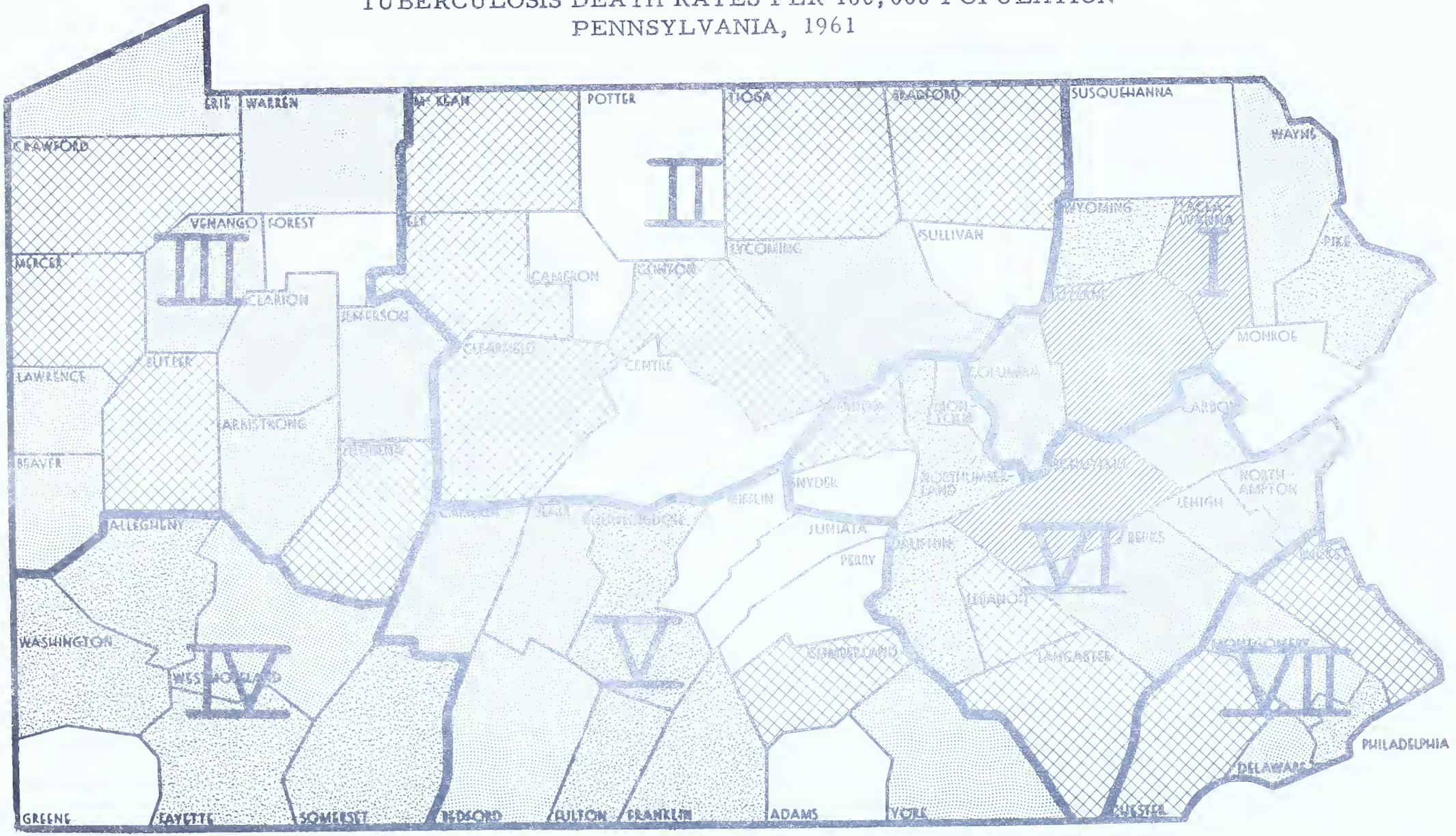
Chart 4

NEWLY REPORTED ACTIVE AND PROBABLY ACTIVE TUBERCULOSIS CASES AND RATES PER 100,000 POPULATION, PENNSYLVANIA, 1961

COUNTY	TUBERCULOSIS CASES	
	Number	Rate per 100,000 Population
1. Philadelphia	1,484	72.4
2. Schuylkill	107	62.0
3. Luzerne	153	44.1
4. Lackawanna	99	42.6
5. Carbon	18	34.4
6. Wayne	10	33.9
7. Allegheny	543	33.1
8. Northumberland	34	32.6
PENNSYLVANIA	3,732	32.5
9. Monroe	13	31.5
10. Pike	3	30.7
11. Cambria	63	30.6
12. Franklin	25	27.6
13. Perry	7	26.7
14. Fayette	44	26.2
15. Columbia	14	26.2
16. Delaware	143	25.6
17. Dauphin	57	25.4
18. Wyoming	4	23.5
19. Montour	4	22.6
20. Beaver	46	22.3
21. Blair	31	22.2
22. Erie	55	21.8
23. Bucks	69	21.6
24. Northampton	43	21.4
25. Washington	45	20.7
26. Lehigh	47	20.4
27. Berks	57	20.0
28. Chester	43	19.8
29. Fulton	2	19.2
30. Union	5	18.9
31. Lawrence	21	18.6
32. Lancaster	49	17.5
33. Armstrong	13	16.5
34. Lebanon	15	16.3
35. Sullivan	1	16.1
36. Mercer	20	15.7
37. Cumberland	20	15.4
38. Greene	6	15.4
39. Lycoming	17	15.4
40. Clearfield	12	14.9
41. Montgomery	78	14.8
42. Indiana	11	14.5
43. Somerset	11	14.1
44. Mifflin	6	13.3
45. Clinton	5	13.2
46. York	32	13.2
47. Juniata	2	12.9
48. Huntingdon	5	12.8
49. Crawford	10	12.8
50. Westmoreland	46	12.6
51. Susquehanna	4	12.3
52. Butler	13	11.4
53. Snyder	3	11.4
54. Adams	6	11.3
55. Clairon	4	10.8
56. Jefferson	5	10.8
57. Tioga	4	10.8
58. Venango	7	10.8
59. Elk	3	7.9
60. McKean	4	7.2
61. Bradford	4	7.1
62. Centre	5	6.4
63. Warren	3	6.3
64. Bedford	2	4.6
65. Cameron	0	0.0
66. Forest	0	0.0
67. Potter	0	0.0

Text for chart 4

TUBERCULOSIS DEATH RATES PER 100,000 POPULATION
PENNSYLVANIA, 1961



DEATH RATE BY COUNTY

13 Counties – No deaths reported

16 — 1.0 to 3.9

23 — 4.0 to 7.5

12 — 7.6 to 11.9

3 — 12.0 to 19.3

I to VII Regional Areas - Department of Health

Pennsylvania Death Rate 1961 - 7.6

(Death Rate exclusive of Philadelphia and Allegheny County 1961 - 6.15)

1960 (Final) United States Death Rate - 5.9

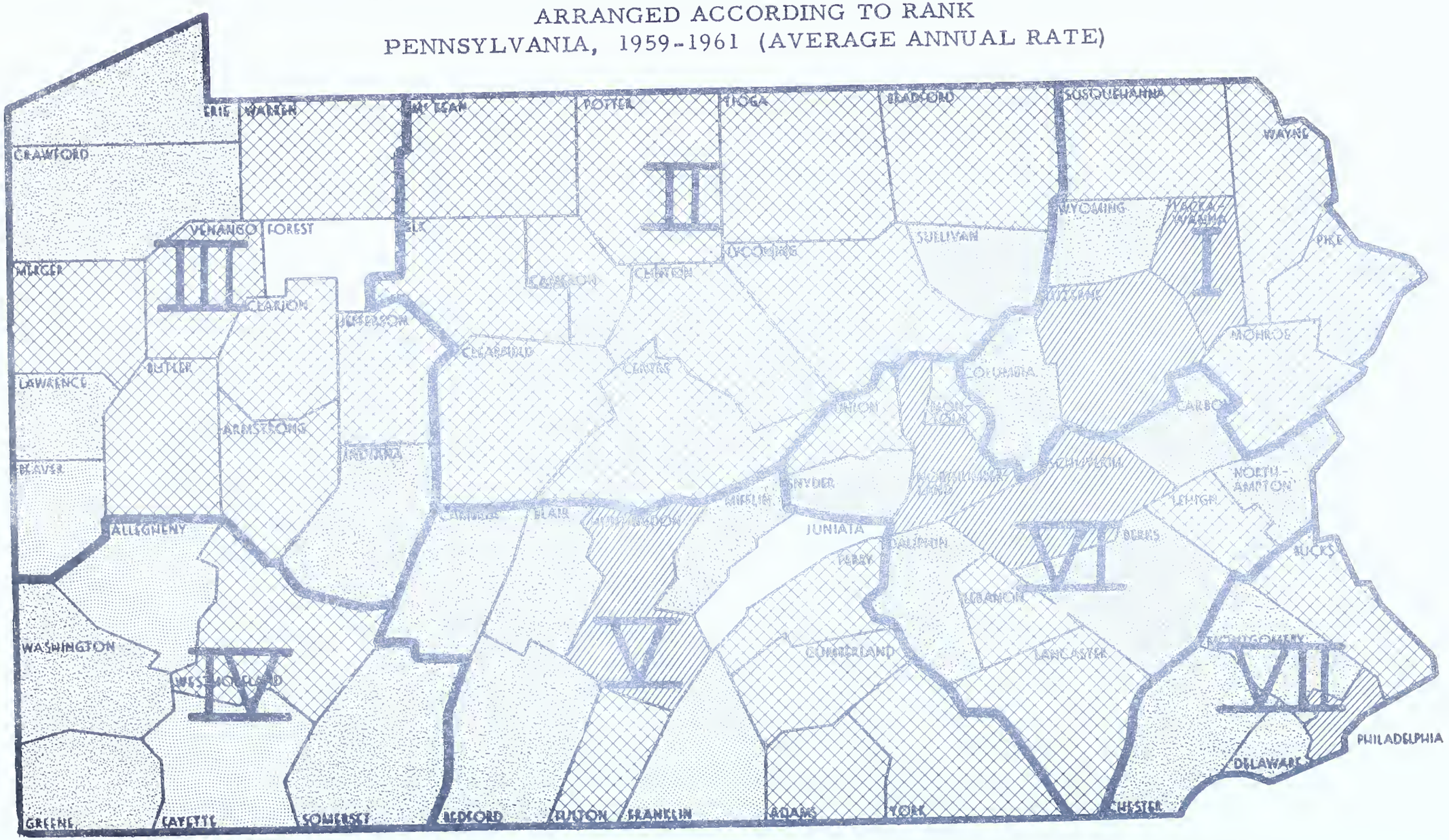
1961 (Provisional) United States Death Rate - 5.7

TUBERCULOSIS DEATHS, ALL FORMS, AND RATES PER 100,000 POPULATION, PENNSYLVANIA, 1961

COUNTY	TUBERCULOSIS DEATHS		COUNTY	TUBERCULOSIS DEATHS	
	Number	Rate per 100,000 Population		Number	Rate per 100,000 Population
1. Luzerne	67	19.3	34. Lehigh	10	4.3
2. Schuylkill	33	19.1	35. Warren	2	4.2
3. Lackawanna	34	14.6	36. Westmoreland	15	4.1
4. Philadelphia	240	11.7	37. Erie	10	4.0
5. Wyoming	2	11.7	38. Northampton	8	4.0
6. Huntingdon	4	10.2	39. Indiana	3	3.9
7. Pike	1	10.2	40. Crawford	3	3.8
8. Franklin	9	9.9	41. Union	1	3.8
9. Fulton	1	9.6	42. Lebanon	3	3.3
10. Allegheny	147	9.0	43. Bucks	10	3.1
11. Dauphin	18	8.0	44. Mercer	4	3.1
12. Washington	17	7.8	45. Cumberland	4	3.1
13. Fayette	13	7.7	46. Chester	6	2.8
14. Northumberland	8	7.7	47. Tioga	1	2.7
15. Somerset	6	7.7	48. Elk	1	2.6
PENNSYLVANIA	866	7.6	49. Clinton	1	2.6
16. Columbia	4	7.5	50. Clearfield	2	2.5
17. Berks	21	7.4	51. Bradford	1	1.8
18. Bedford	3	7.0	52. McKean	1	1.8
19. Beaver	14	6.8	53. Butler	2	1.7
20. Cambria	14	6.8	54. Lancaster	4	1.4
21. Delaware	38	6.8	55. Adams	0	0.0
22. Wayne	2	6.8	56. Cameron	0	0.0
23. Venango	4	6.2	57. Forest	0	0.0
24. Montgomery	31	5.9	58. Greene	0	0.0
25. Carbon	3	5.7	59. Centre	0	0.0
26. Montour	1	5.7	60. Juniata	0	0.0
27. Clarion	2	5.4	61. Monroe	0	0.0
28. Lycoming	6	5.4	62. Perry	0	0.0
29. Lawrence	6	5.3	63. Potter	0	0.0
30. Armstrong	4	5.1	64. Snyder	0	0.0
31. Blair	7	5.0	65. Sullivan	0	0.0
32. York	12	4.9	66. Susquehanna	0	0.0
33. Jefferson	2	4.3	67. Mifflin	0	0.0

Text for chart 5

TUBERCULOSIS DEATH RATES BY COUNTY OF RESIDENCE
ARRANGED ACCORDING TO RANK
PENNSYLVANIA, 1959-1961 (AVERAGE ANNUAL RATE)



DEATH RATE BY COUNTIES

2 Counties – No deaths reported

32 Less than 5.0

18 5.0 to 7.9

8 8.0 to 10.9

6 11.0 to 23.7

I to VII Regional Areas - Department of Health

1959-1961 Pennsylvania Death Rate - 8.1
1960 (Final) United States Death Rate - 5.9
1961 (Tentative) United States Death Rate - 5.7

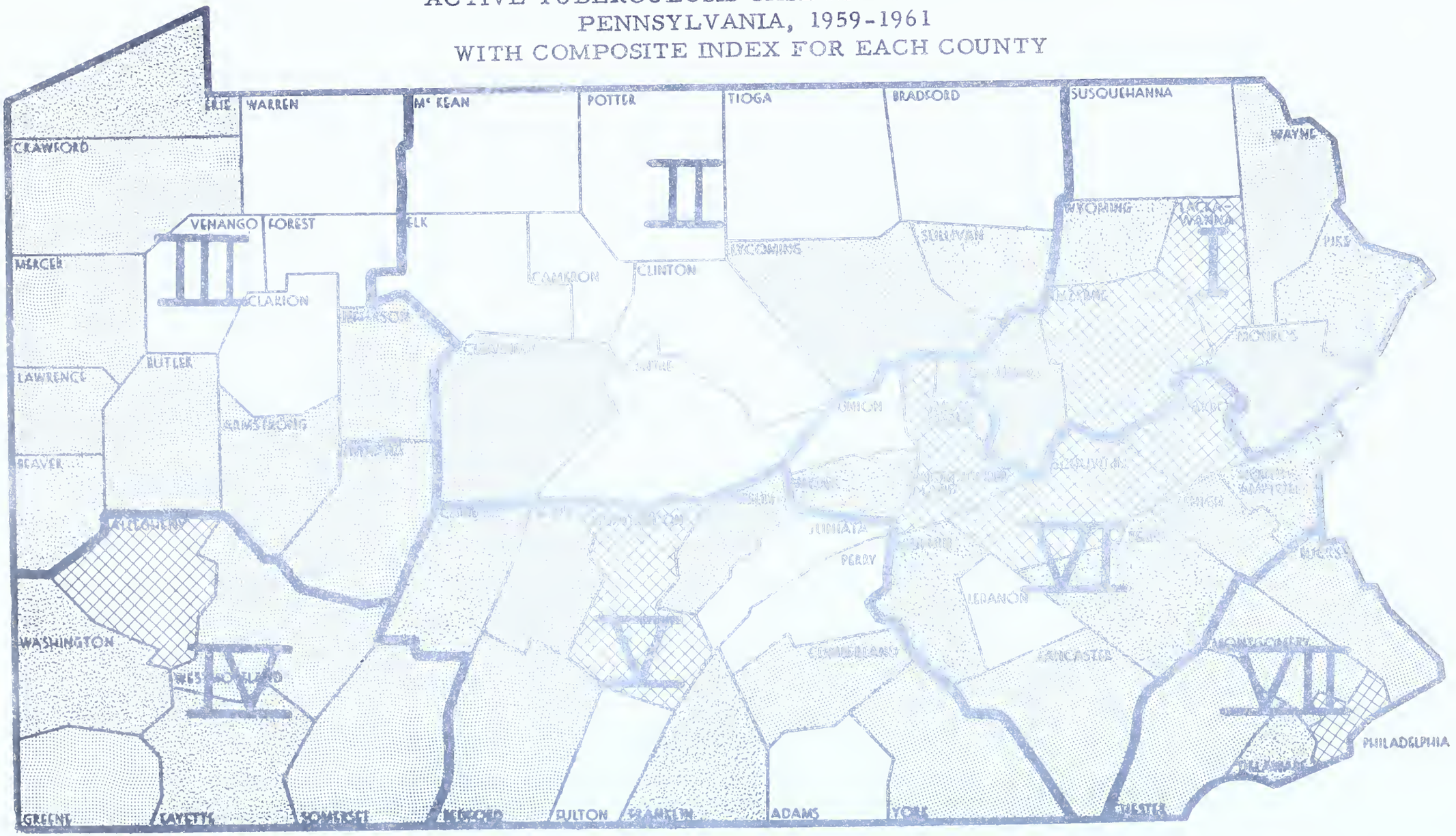
Chart 6

TUBERCULOSIS DEATH RATES BY COUNTY OF RESIDENCE ARRANGED ACCORDING TO RANK PENNSYLVANIA, 1959-1961 (AVERAGE ANNUAL RATE)

COUNTY	TUBERCULOSIS DEATHS		COUNTY	TUBERCULOSIS DEATHS	
	Number	Rate per 100,000 Population		Number	Rate per 100,000 Population
1. Schuylkill	123	23.7	34. Cumberland	18	4.8
2. Luzerne	196	18.8	35. Lehigh	33	4.8
3. Philadelphia	784	13.1	36. Wayne	4	4.7
4. Lackawanna	86	12.2	37. Cameron	1	4.4
5. Huntingdon	14	11.8	38. Warren	6	4.4
6. Northumberland	37	11.8	39. Jefferson	6	4.3
7. Carbon	17	10.7	40. Westmoreland	46	4.3
8. Sullivan	2	10.7	41. Venango	8	4.1
9. Berks	83	10.0	42. Montour	2	4.0
10. Franklin	25	9.5	43. Mercer	15	3.9
11. Allegheny	439	9.0	44. York	27	3.8
12. Snyder	7	9.0	45. Elk	4	3.6
13. Fayette	44	8.7	46. Lancaster	30	3.6
14. Beaver	51	8.2	47. Pike	1	3.6
PENNSYLVANIA	2,748	8.1	48. Adams	5	3.2
15. Wyoming	4	7.9	49. Butler	11	3.2
16. Cambria	45	7.4	50. Fulton	1	3.1
17. Dauphin	45	6.8	51. Susquehanna	3	3.0
18. Northampton	39	6.5	52. Armstrong	7	2.9
19. Bedford	8	6.3	53. Clarion	3	2.7
20. Columbia	10	6.2	54. Tioga	3	2.7
21. Delaware	102	6.1	55. Bucks	24	2.6
22. Crawford	14	6.0	56. Lebanon	7	2.6
23. Mifflin	8	6.0	57. Potter	1	2.0
24. Washington	39	6.0	58. Clinton	2	1.8
25. Erie	44	5.9	59. Monroe	2	1.7
26. Blair	23	5.6	60. Perry	1	1.3
27. Indiana	12	5.3	61. Union	1	1.3
28. Lawrence	18	5.3	62. Clearfield	3	1.2
29. Somerset	12	5.2	63. McKean	2	1.2
30. Chester	32	5.1	64. Centre	2	0.8
31. Greene	6	5.1	65. Bradford	1	0.6
32. Montgomery	79	5.1	66. Forest	0	0.0
33. Lycoming	16	4.9	67. Juniata	0	0.0

Text for chart 6

ACTIVE TUBERCULOSIS CASE AND DEATH RATES
PENNSYLVANIA, 1959-1961
WITH COMPOSITE INDEX FOR EACH COUNTY



NO. OF COUNTIES	COMPOSITE INDEX
19	Less than 13.9
26	14.0 to 21.9 – More than 1/3 below State average

NO. OF COUNTIES	COMPOSITE INDEX
14	22.0 to 33.5 – Less than 1/3 below State average
8	33.6 to 74.1 – Above State average

I to VII Regional Areas - Department of Health

Composite Index for Pennsylvania 1959-1961 – 33.5

Chart 7

NEW ACTIVE TUBERCULOSIS CASES AND RATES AND TUBERCULOSIS DEATHS AND RATES BY COUNTY OF RESIDENCE, ARRANGED ACCORDING TO RANK, PENNSYLVANIA, 1959-1961 (AVERAGE ANNUAL RATE) AND COMPOSITE INDEX FOR EACH COUNTY

COUNTY	DEATHS		CASES		COMPOSITE INDEX	
	No.	Rate	No.	Rate	Rate	Rank
Schuylkill	123	23.7	265	51.1	74.1	1
Philadelphia	784	13.1	4,699	78.2	65.9	2
Luzerne	196	18.8	434	41.7	59.4	3
Lackawanna	86	12.2	259	36.8	43.5	4
Northumberland	37	11.8	111	35.5	42.0	5
Huntingdon	14	11.8	38	32.1	40.3	6
Carbon	17	10.7	55	34.7	39.3	7
Allegheny	439	9.0	1,704	34.9	35.9	8
Franklin	25	9.5	79	29.9	32.4	9
Fayette	44	8.7	150	29.5	32.5	10
Snyder	7	9.0	18	23.1	30.0	11
Cambria	45	7.4	176	28.9	29.6	12
Berks	83	10.0	131	15.9	28.5	13
Beaver	51	8.2	145	23.4	28.5	14
Sullivan	2	10.7	2	10.7	27.2	15
Dauphin	45	6.8	171	25.9	26.9	16
Delaware	102	6.1	412	24.8	25.0	17
Pike	1	3.6	9	32.8	23.8	18
Northampton	39	6.5	124	20.5	23.5	19
Wyoming	4	7.9	7	13.9	23.2	20
Washington	39	6.0	135	20.7	22.6	21
Erie	44	5.9	155	20.6	22.3	22
Chester	32	5.1	146	23.1	21.9	23
Blair	23	5.6	80	19.4	21.2	24
Columbia	10	6.2	26	16.2	20.9	25
Mifflin	8	6.0	22	16.5	20.6	26
Lehigh	33	4.8	145	21.2	20.5	27
Lawrence	18	5.3	61	18.0	19.9	28
Crawford	14	6.0	35	15.0	19.8	29
Cumberland	18	4.8	73	19.5	19.6	30
Montour	2	4.0	11	21.9	19.1	31
Wayne	4	4.7	16	18.9	19.1	32
Indiana	12	5.3	34	15.0	18.4	33
Montgomery	79	5.1	242	15.6	18.3	34
Somerset	12	5.2	34	14.6	17.9	35
Greene	6	5.1	17	14.4	17.6	36
Bedford	8	6.3	11	8.6	17.2	37
Lycoming	16	4.9	47	14.3	17.2	38
Monroe	2	1.7	20	16.8	16.9	39
Westmoreland	46	4.3	162	15.3	16.6	40
Mercer	15	3.9	65	17.0	16.5	41
Bucks	24	2.6	189	20.4	15.5	42
Clearfield	3	1.2	38	15.5	15.3	43
Butler	11	3.2	58	16.9	15.0	44
Lancaster	30	3.6	120	14.4	14.5	45
Jefferson	6	4.3	16	11.4	14.5	46
Armstrong	7	2.9	39	16.3	14.2	47
York	27	3.8	90	12.6	14.0	48
Venango	8	4.1	20	10.2	13.5	49
Warren	6	4.4	12	8.8	13.4	50
Susquehanna	3	3.0	14	14.1	13.2	51
Fulton	1	3.1	4	12.6	12.7	52
Adams	5	3.2	19	12.2	12.7	53
Elk	4	3.6	11	9.8	12.2	54
Perry	1	1.3	15	18.8	12.0	55
Tioga	3	2.7	13	11.8	11.5	56
Cameron	1	4.4	1	4.4	11.2	57
Forest	–	0.0	3	22.3	11.1	58
Lebanon	7	2.6	30	11.0	10.8	59
Potter	1	2.0	5	10.1	9.2	60
Clarion	3	2.7	8	7.1	9.0	61
McKean	2	1.2	21	12.8	8.9	62
Union	1	1.3	9	11.7	8.5	63
Clinton	2	1.8	11	9.7	8.5	64
Juniata	–	0.0	8	16.8	8.4	65
Bradford	1	0.6	17	10.3	6.4	66
Centre	2	0.8	20	8.5	6.0	67
PENNSYLVANIA	2,748	8.1	11,369	33.5	33.5	10th in U.S.*

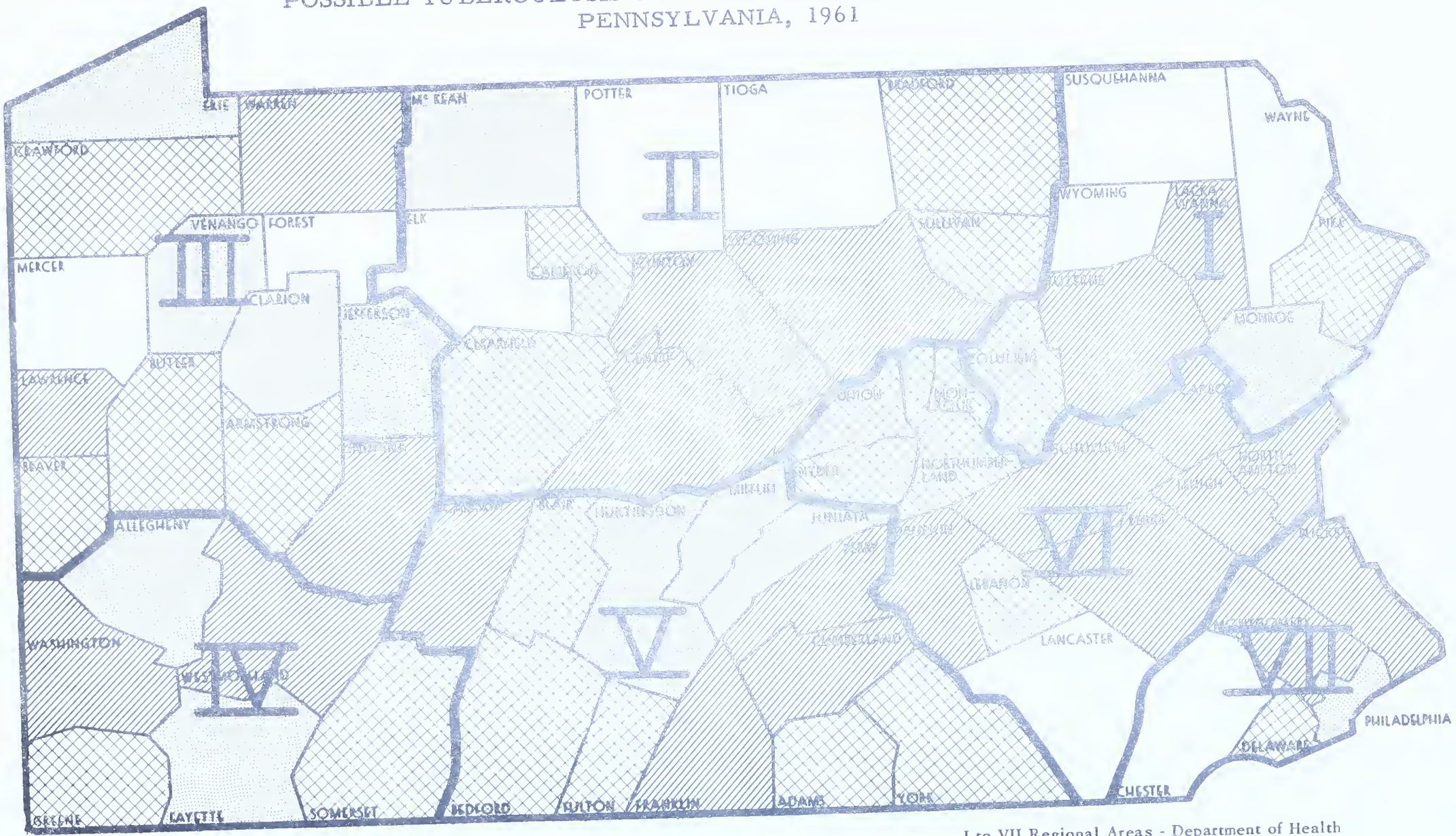
Composite Index = $\frac{\text{(Case Rate + (4.1 × death rate)}}{2}$

(4.1 is the case/death ratio for Pennsylvania)

* In 1959, Pennsylvania ranked 10th in the nation by Composite Index

Text for chart 7

POSSIBLE TUBERCULOSIS CASES DISCOVERED BY X-RAY SURVEYS
PENNSYLVANIA, 1961



I to VII Regional Areas - Department of Health

NO. OF COUNTIES

10	No survey reports received
1	No possible cases found
23	Under 3 cases per 1000 films
22	3-6 cases per 1000 films
11	7-30 cases per 1000 films

Chart 8

POSSIBLE AND SUSPICIOUS TUBERCULOSIS CASES DISCOVERED BY X-RAY SURVEYS PENNSYLVANIA, 1961

During the first six months of 1961, 70 mm. chest x-ray surveys continued to be used as a means of case-detection, under the criteria established for this program in 1959. These criteria called for selective scheduling of chest x-ray surveys, with priority being given to counties where the yield was continuing to be high, and the case and death rates for tuberculosis approached or exceeded the average for Pennsylvania.

During 1961, more selective criteria were established in order to have future surveys conducted with maximum efficiency and economy. In July 1961, instructions for the scheduling of future community and other chest x-ray surveys were compiled and placed in effect. Under these new criteria general community surveys were to be limited to those counties and municipalities and areas within counties having the greatest tuberculosis problem. X-ray surveys have also been conducted as a follow-up of reactors and associates of reactors discovered in tuberculin testing programs. High risk groups in certain institutions are continuing to receive this service.

In arriving at these new criteria, the tuberculosis mortality and morbidity statistics, the results of the 1960 x-ray survey program, tuberculin reactor rates, and other factors were considered. The composite index represents another factor receiving consideration (See Chart No. 7). Thus, future annual chest x-ray surveys are now being limited to the counties having the eight highest composite indices. Those counties with lower composite indices are being surveyed every one, two or three years, as determined by the evaluation of the number of newly reported active cases and other significant data.

Under these new criteria surveys were not conducted by the Division of Tuberculosis Control in 1961 in the following counties: Forest, Wayne, Susquehanna, Wyoming and Potter counties. Independent surveys are conducted by Elk, Chester, Lancaster, Mercer and Tioga counties.

Text for Chart 8

Tuberculosis Case and Death Rates for Cities over 45,000 Population, Pennsylvania, 1959 – 1961

Chart 9

TUBERCULOSIS CASE AND DEATH RATES FOR CITIES OVER 45,000 POPULATION PENNSYLVANIA, 1959-1961

There were 11,369 new active cases of tuberculosis reported in Pennsylvania during 1959-1961. Sixty percent of these cases were reported from cities of over 45,000 population. New active cases reported from Philadelphia and from Pittsburgh, during this period, accounted for 5,926 of the total reported, or 52.1 percent of the total.

The cases reported from the largest cities, of over 45,000 population, represented 60 percent of the total cases reported. Those reported from other areas in Pennsylvania accounted for only 4,320 cases or 40.0 percent of the total.

As shown on the chart, eight of these cities had an average active case rate, during this period, higher than that for Pennsylvania. In addition to those shown, there were six cities with a population under 45,000 which had an average active case rate above the Pennsylvania average for this period. These were: Pottsville (61.6), Washington (52.4), Aliquippa (51.8), Butler (46.1), New Kensington (41.2) and McKeesport (40.3).

Text for Chart 9

Tuberculosis Case Rates and Number of Cases By Race – Sex, Pennsylvania, 1961

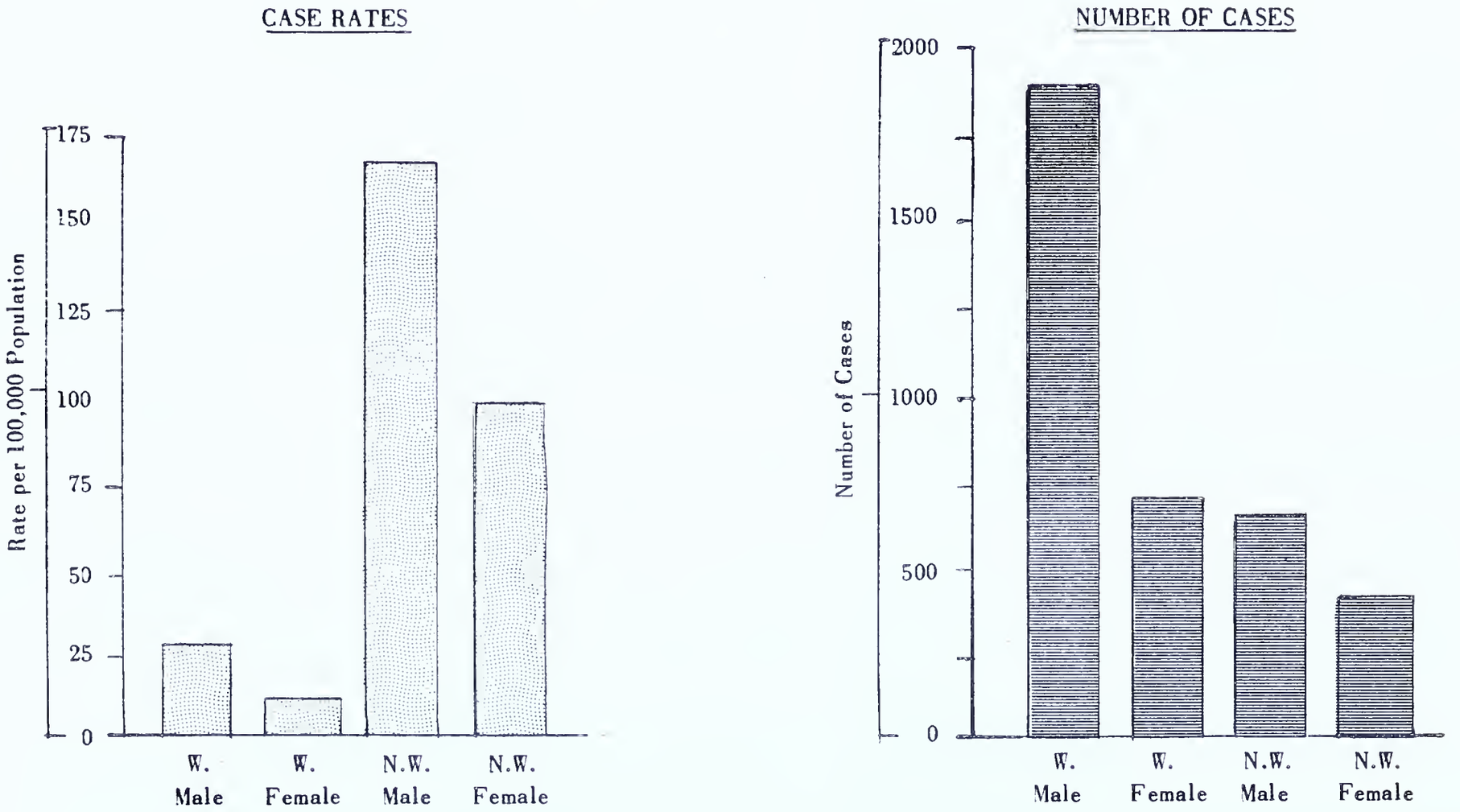


Chart 10

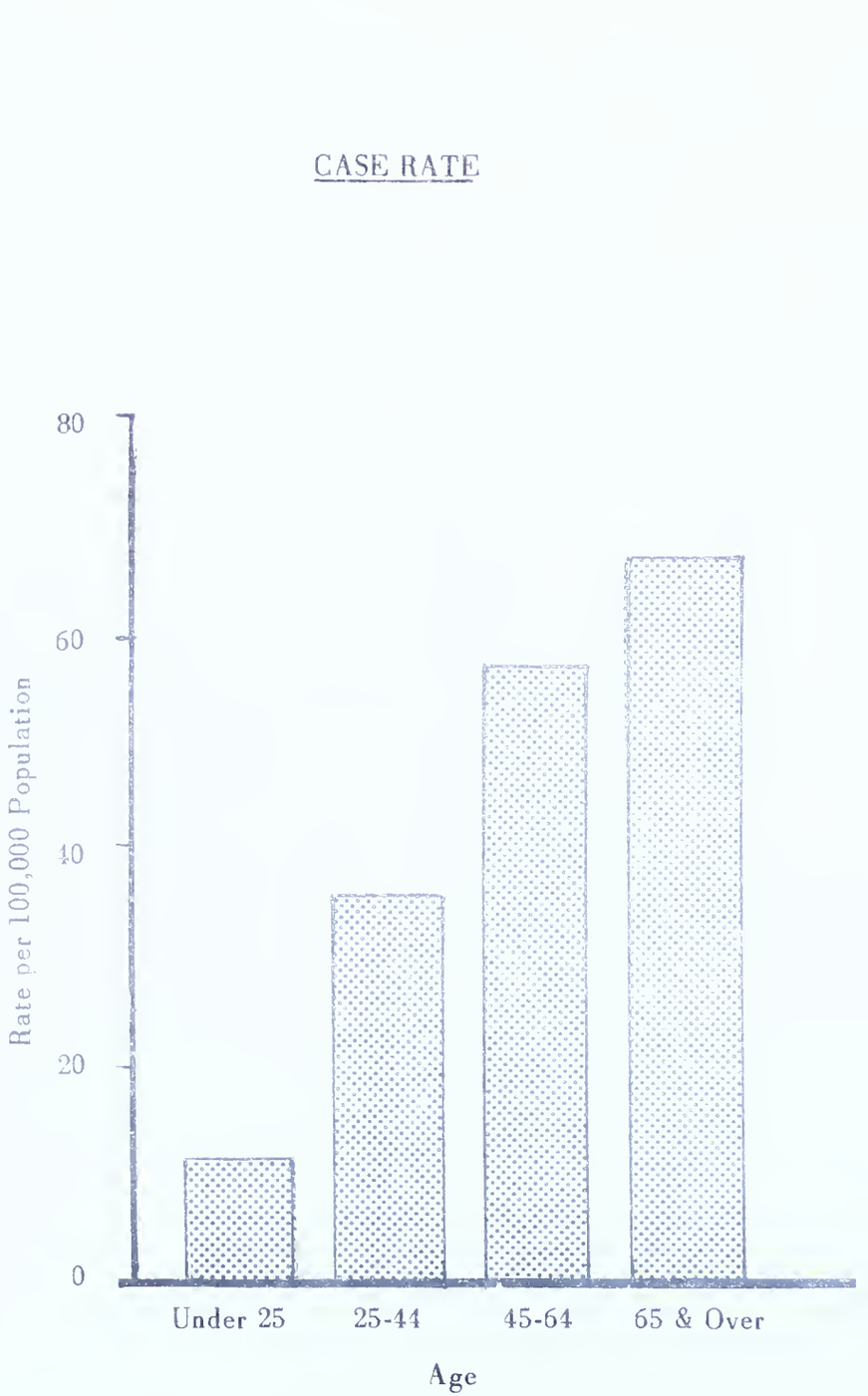
TUBERCULOSIS CASE RATES AND NUMBER OF CASES BY RACE AND SEX
PENNSYLVANIA, 1961

Case rates are more than five times higher for non-whites than for whites. At the same time over seventy percent of the cases occur in the whites. The non-white males have the highest case rates, however, over one-half of the total number of cases occur among the white males.

Race-Sex	Number	Percent	Rate
Both Races	3,732	100.0	33.5
Male	2,600	69.7	48.3
Female	1,132	30.3	19.5
White	2,635	70.6	25.4
Male	1,928	51.7	38.4
Female	707	18.9	13.1
Non-white	1,097	29.4	130.7
Male	672	18.0	166.4
Female	425	11.4	97.6

Text for Chart 10

Tuberculosis Case Rates and Number of Cases By Age, Pennsylvania, 1961



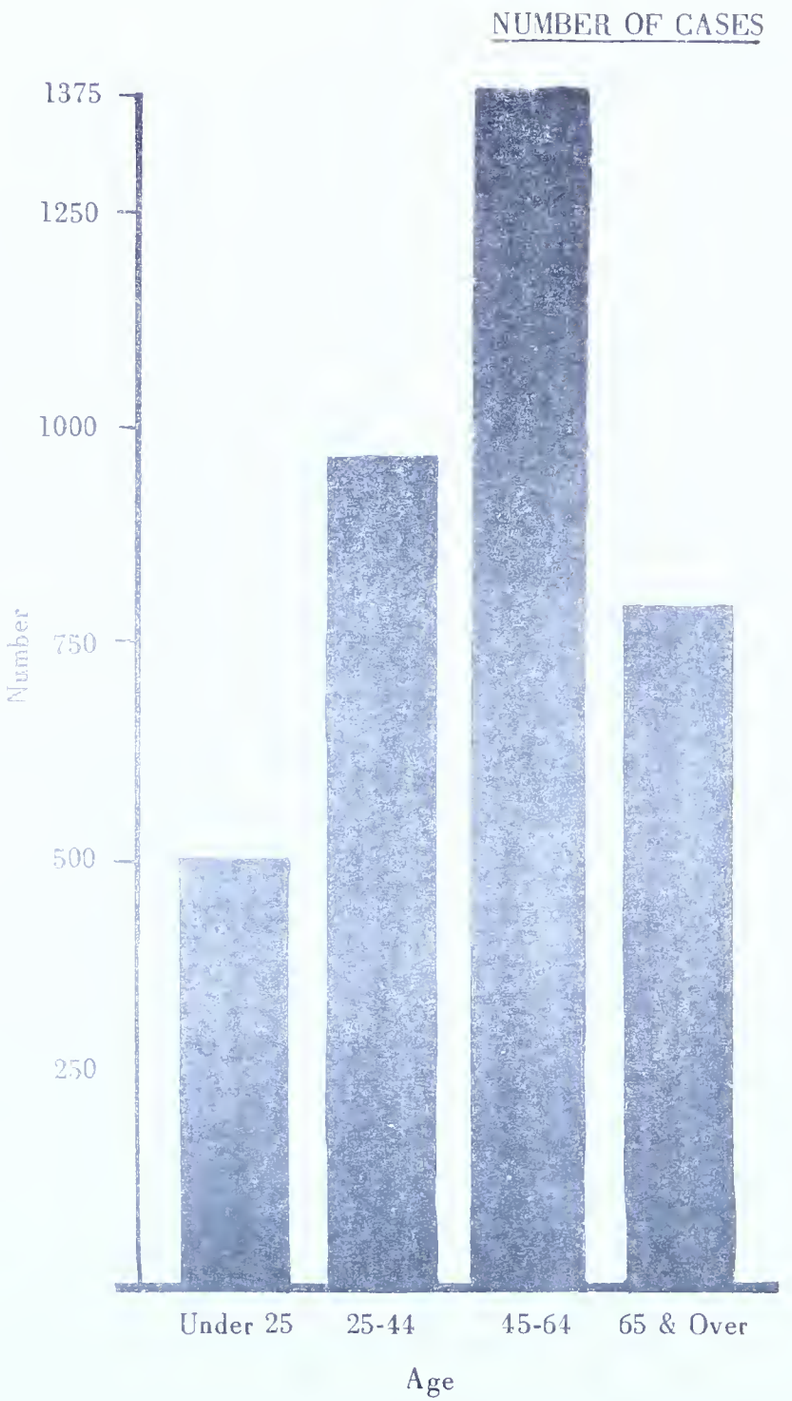


Chart 11

TUBERCULOSIS CASE RATES AND NUMBER OF CASES BY AGE PENNSYLVANIA, 1961

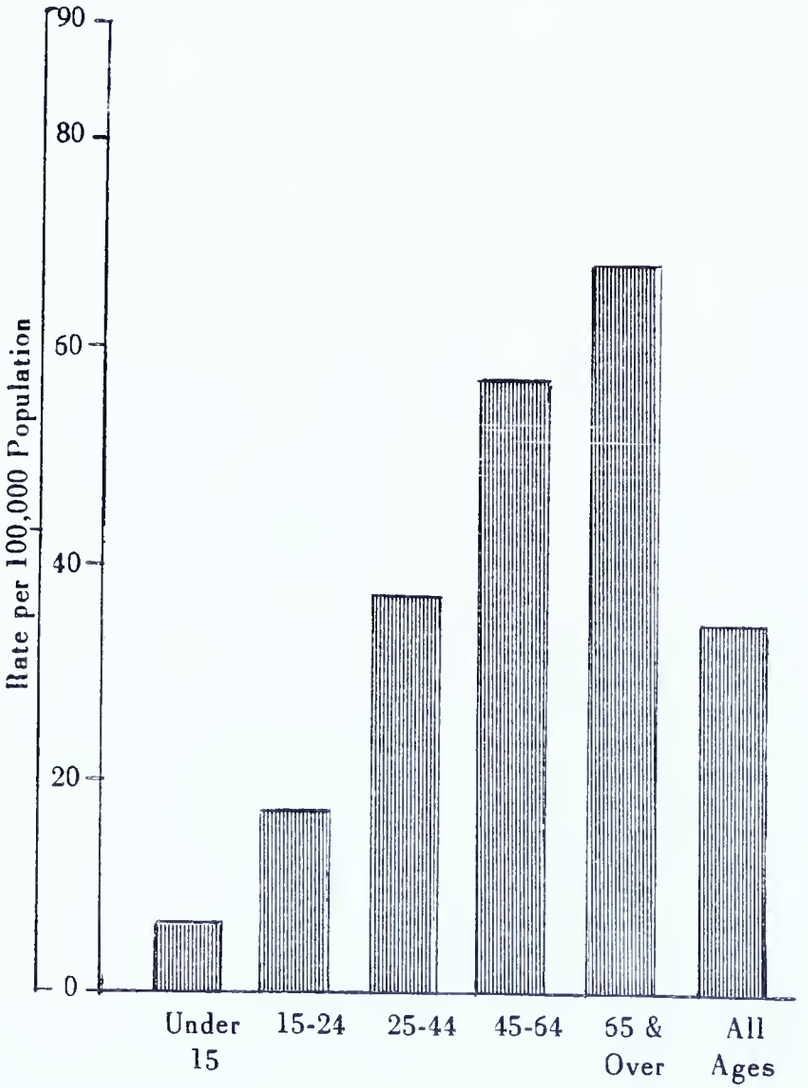
Case rates rise with increasing age after reaching a low point for persons 5 to 14. Persons 65 and older have the highest case rate. However, less than one-fourth of the total number of cases occur among persons 65 and older. Approximately forty percent of the cases occur among persons under 45 years of age.

	NEW ACTIVE CASES		
Age	Number	Percent	Rate
Under 25	505	13.5	10.5
0 - 4	146	3.9	11.5
5 - 14	126	3.4	4.7
15 - 24	233	6.2	17.3
25 - 44	966	25.9	36.2
45 - 64	1,381	37.0	56.6
65 and over	793	21.4	67.9
Unknown	87	2.3	
All ages	3,732	100.0	33.5

Text for Chart 11

Tuberculosis Active Case Rates and Number of Cases by Age. Pennsylvania, 1959 - 1961

CASE RATES



NUMBER OF CASES

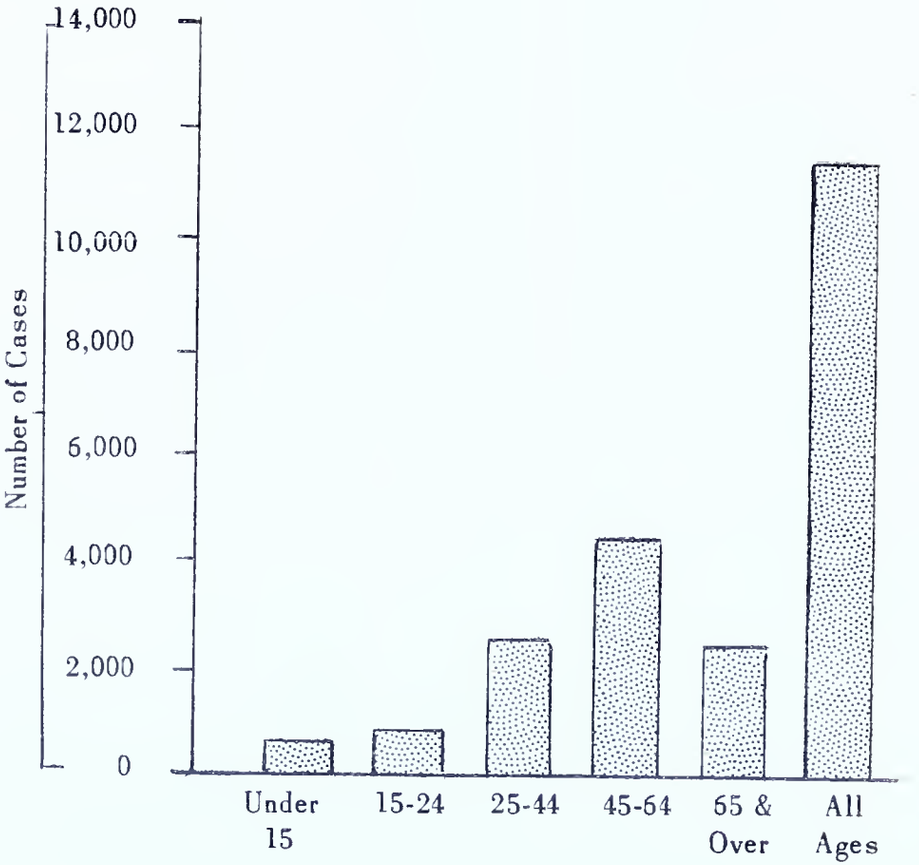


Chart 12

TUBERCULOSIS ACTIVE CASE RATES AND NUMBER OF CASES BY AGE PENNSYLVANIA, 1959-1961

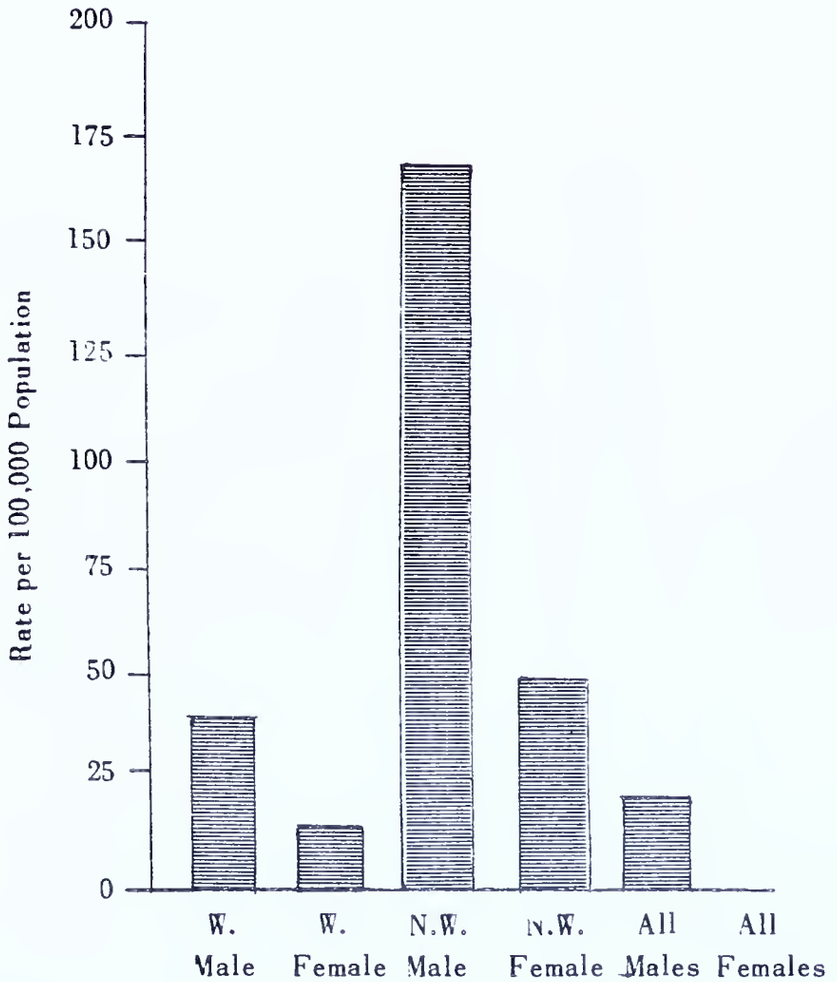
The three year average case rate was 33.5 per 100,000 population for the period from 1959-1961. Case rates are lowest for persons aged 0-14. Rates rise with increasing age, reaching a high point in persons 65 and older. However, only one-fifth of the total number of new active cases occur among persons of 65 and older. Over two-fifths of the cases occur among persons under age 45.

	NEW ACTIVE CASES		
Age	Number	Percent	Rate
Under 15	709	6.2	7.1
15 - 24	735	6.6	17.3
25 - 44	3,287	28.9	36.2
45 - 64	4,166	36.6	56.6
Over 64	2,299	20.2	67.9
Unknown	173	1.5	
All ages	11,369	100.0	33.5

Text for Chart 12

Tuberculosis Active Case Rates and Number of Cases By Race–Sex, Pennsylvania, 1959 - 1961

CASE RATES



NUMBER OF CASES

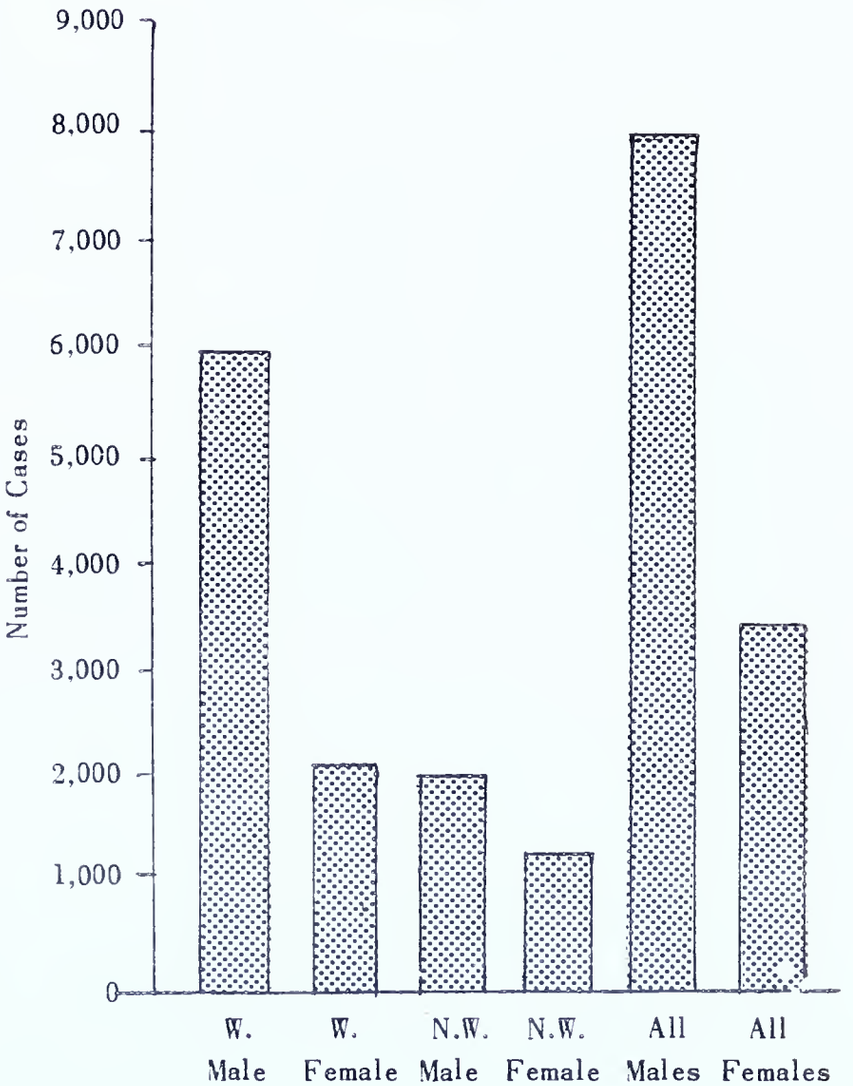


Chart 13

TUBERCULOSIS ACTIVE CASE RATES AND NUMBER OF CASES BY RACE AND SEX PENNSYLVANIA, 1959-1961

New active case rates are higher for non-whites than for whites. However, whites have a higher number of cases than non-whites. In fact, over one-half of the cases occur among white males.

RACE-SEX	NUMBER	PERCENT	RATE
Both Races	11,369	100.0	33.5
Male	7,942	69.9	48.3
Female	3,427	30.1	19.5
White	7,976	70.2	25.4
Male	5,865	51.6	38.4
Female	2,111	18.6	13.1
Non-white	3,393	29.8	130.7
Male	2,077	18.3	166.4
Female	1,316	11.5	97.6

Text for Chart 13

Age Specific Rates for New Active Tuberculosis Cases and Tuberculosis Deaths: Pennsylvania, 1961
(Logarithmic)

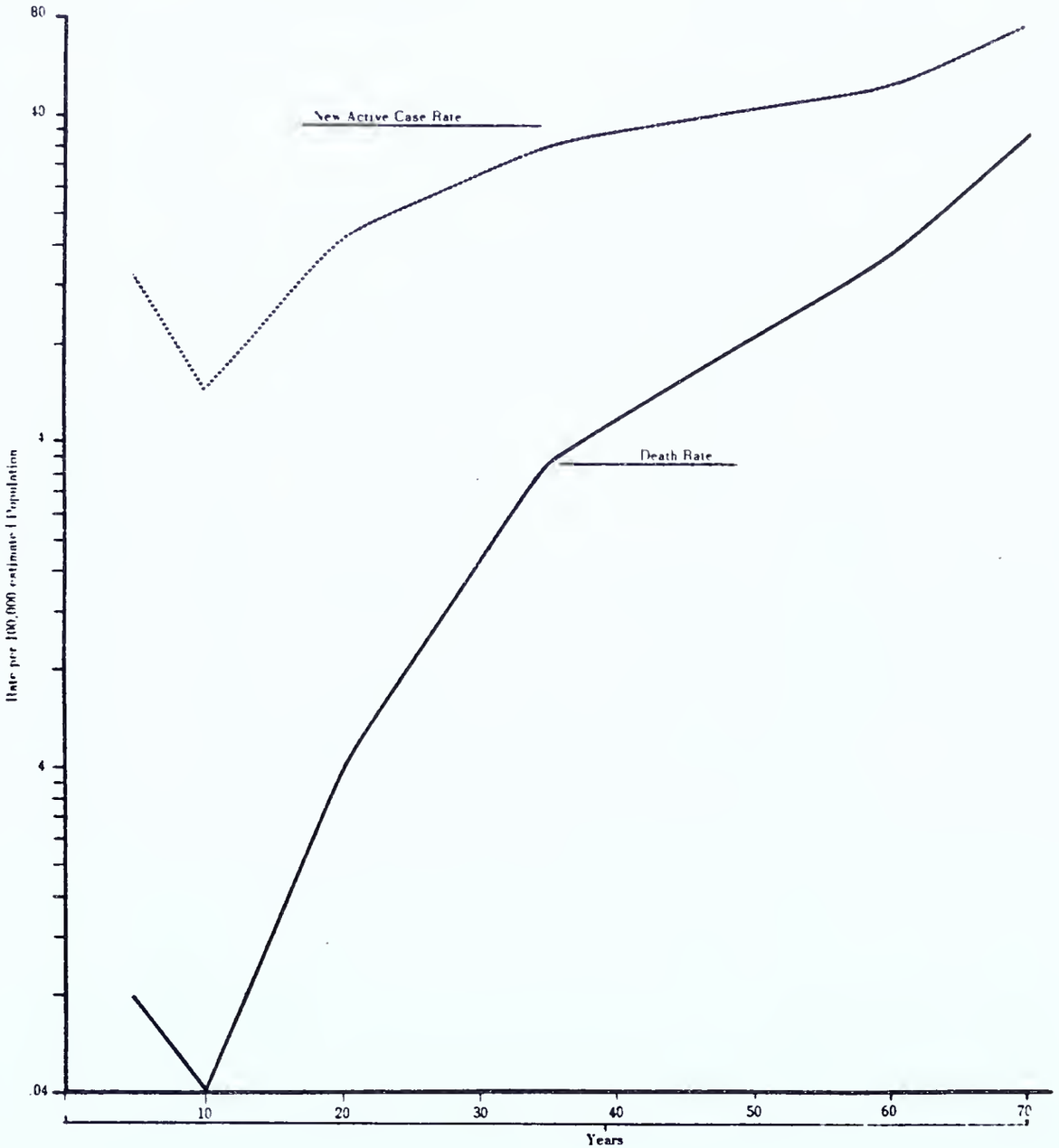


Chart 14

TUBERCULOSIS CASE AND DEATH RATES BY AGE
PENNSYLVANIA, 1961

Both case and death rates rise with increasing age after a low point for the group aged 5-14. The logarithmic scale depicts rate of change.

The summarized experience of younger persons compared with that of older persons is as follows:

Age	Case Rates	Death Rates	Percent of Cases	Percent of Deaths	Case-Death Ratios
Under 45	19.5	1.5	38.5	13.2	13.0
45 and Over	59.6	20.5	61.5	86.8	2.9

Text for Chart 14

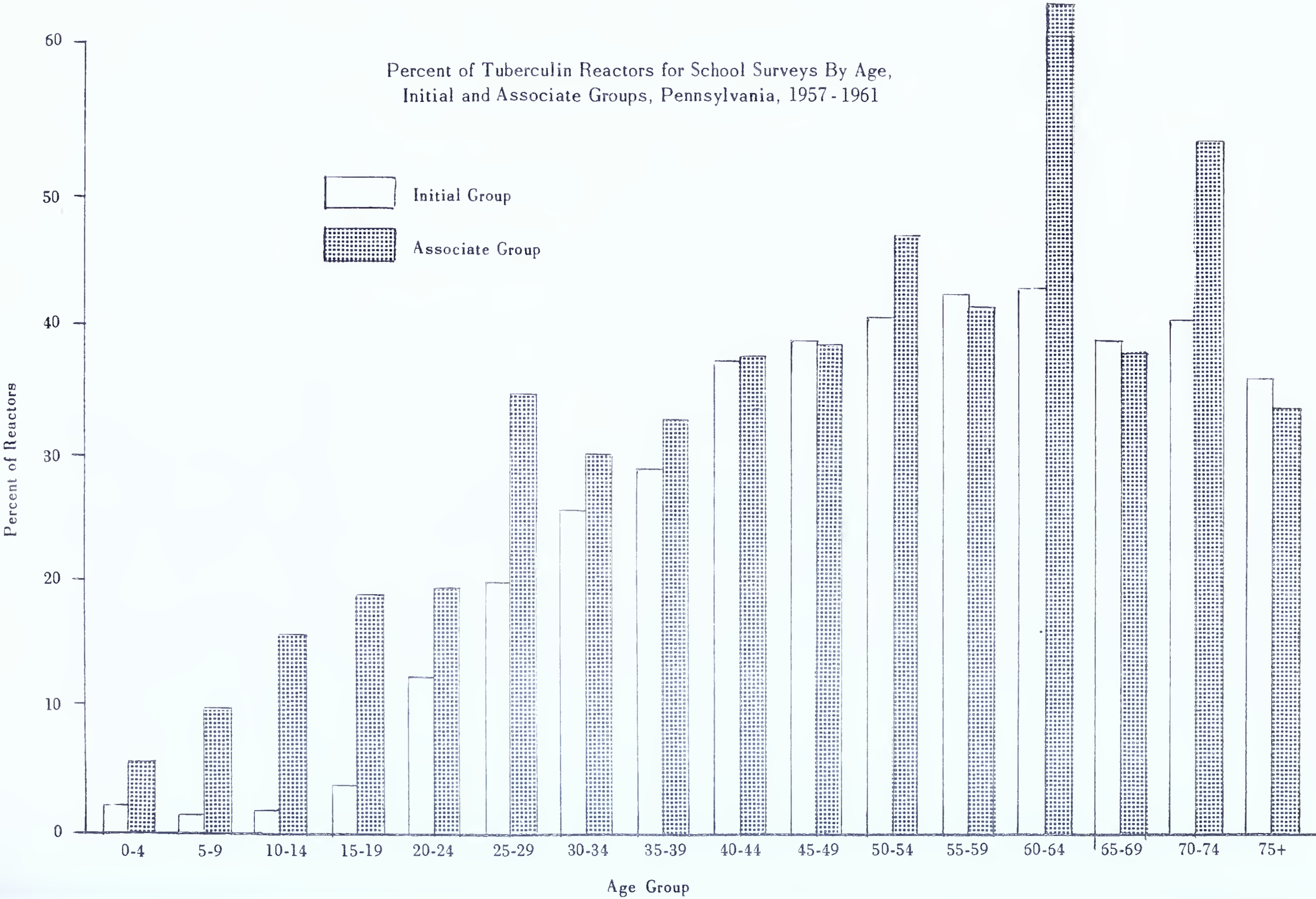

Percent of Tuberculin Reactors for School Surveys By Age,
Initial and Associate Groups, Pennsylvania, 1957 - 1961
Initial Group
Associate Group
Percent of Reactors
60
50
40
30
20
10
0
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75+
Age Group

Chart 15

PERCENT OF TUBERCULIN REACTORS FOR SCHOOL SURVEYS BY AGE, INITIAL AND ASSOCIATE GROUPS, PENNSYLVANIA, 1957-1961

From 1957, through 1961, more than 275,000 residents of Pennsylvania were given intradermal tests with an intermediate (0.0001 mg.) dose of the intradermal standard PPD. These tests were given initially to school age groups and school employes. This was followed by testing the associates of the reactors found in the initial group.

From 0 to 64 years of age the initial group tested showed an almost continuous rise in the percentage of reactors, with a peak of 42.1 percent in the 60-64 year old age group. Among the associates tested, the percentage of reactors for the age group 0-19 was signicantly higher than in the initial group. There was an abrupt rise in the percentage of reactors who were 20 years and older, with a peak of 63.8 percent in the 60-64 year old age group.

The associates of the reactors represented slightly over one percent of the total number of persons tested. The number of associates of reactors who were tested fell far short of the number that should have been tested to complete the planned program. This phase of the program is more difficult and requires strengthening. Data on the chest x-ray films taken on the reactors in both groups and the number of new cases found are as yet incomplete.

During 1961, the Rules and Regulations of the Department of Health were modified so that the tuberculin test may be used in place of the required chest x-ray for students in the tenth, eleventh or twelfth grades. The reactors found are then required to have a chest x-ray.

Among the initial group tested the percentage of reactors at age 14 was 1.8%. The goal for 1970 is: no more than 1% reactors in the 14 year old age group.

Text for Chart 15

Percent Distribution By Size of Tuberculin Induration for Initial and Associate Groups, Pennsylvania, 1957 - 1961

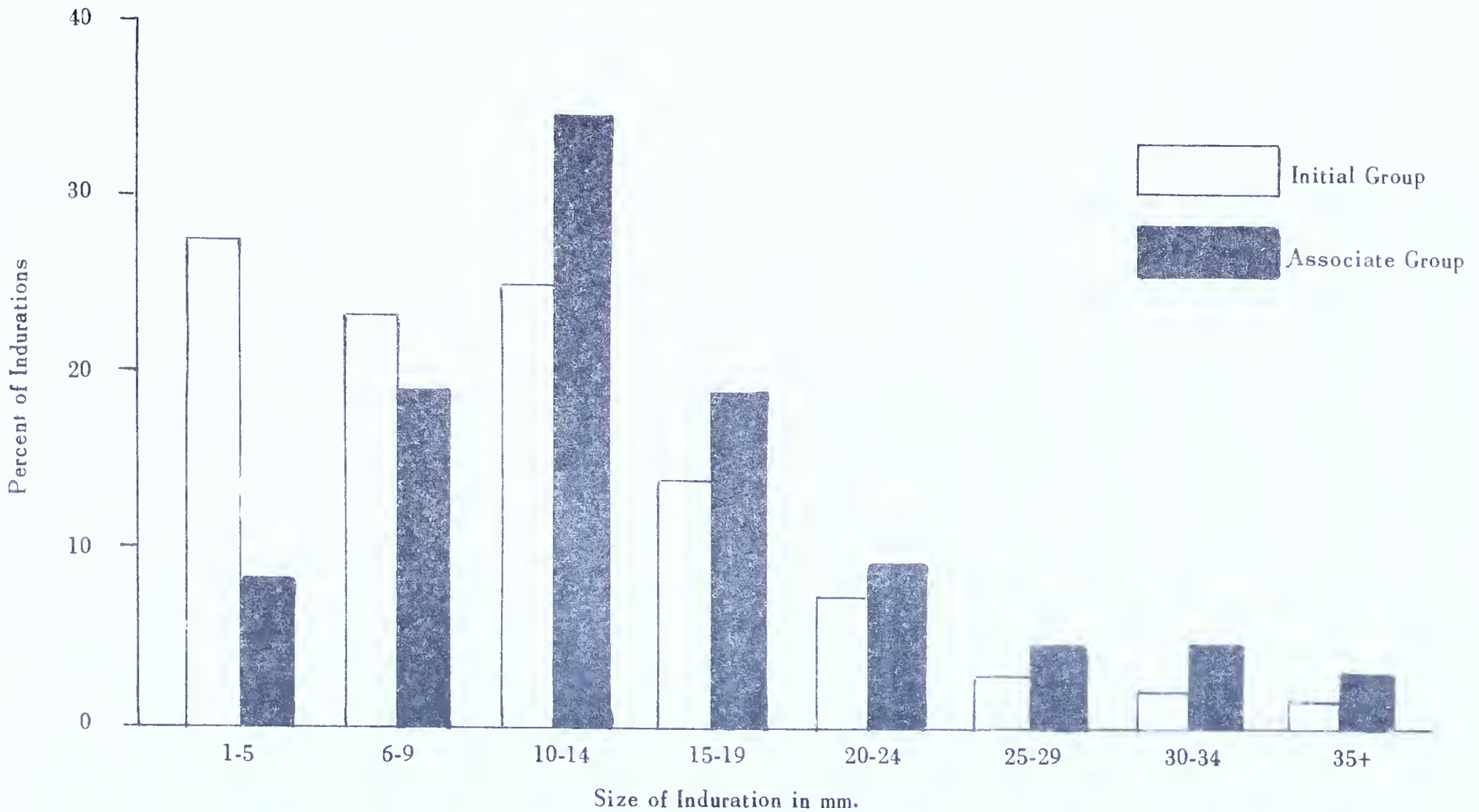


Chart 16

PERCENT DISTRIBUTION BY SIZE OF TUBERCULOSIS INDURATION FOR INITIAL AND ASSOCIATE GROUPS, PENNSYLVANIA, 1957-1961

Over fifty percent of the initial group tested were found to have indurations under 10 mm. in diameter. Twenty-seven percent of the associates were found to have indurations of this size.

For the associate group, the most frequent size of the indurations was 10-14 mm. in diameter or 34.6% of the total. The induration of 1-5 mm. in diameter was the most frequent size in the initial group, or 27.6% of the total. Indurations of over 20 mm. in diameter accounted for only 6.7% of the reactions among the initial group and for 20.5% among the associates.

"Recent studies have shown that persons with good-sized reactions to the 5-TU test (10 mm. or more of induration) are at greater risk of developing tuberculous disease than are persons with smaller (5 to 9 mm.) reactions."[1]

[1]Diagnostic Standards and Classification of Tuberculosis, National Tuberculosis Association, 1961, Page 35

Text for Chart 16

Percent of Tuberculin Reactors for Those 19 Years and Under, and Those 20 Years and Over, Initial and Associate Groups, Pennsylvania, 1957 - 1961

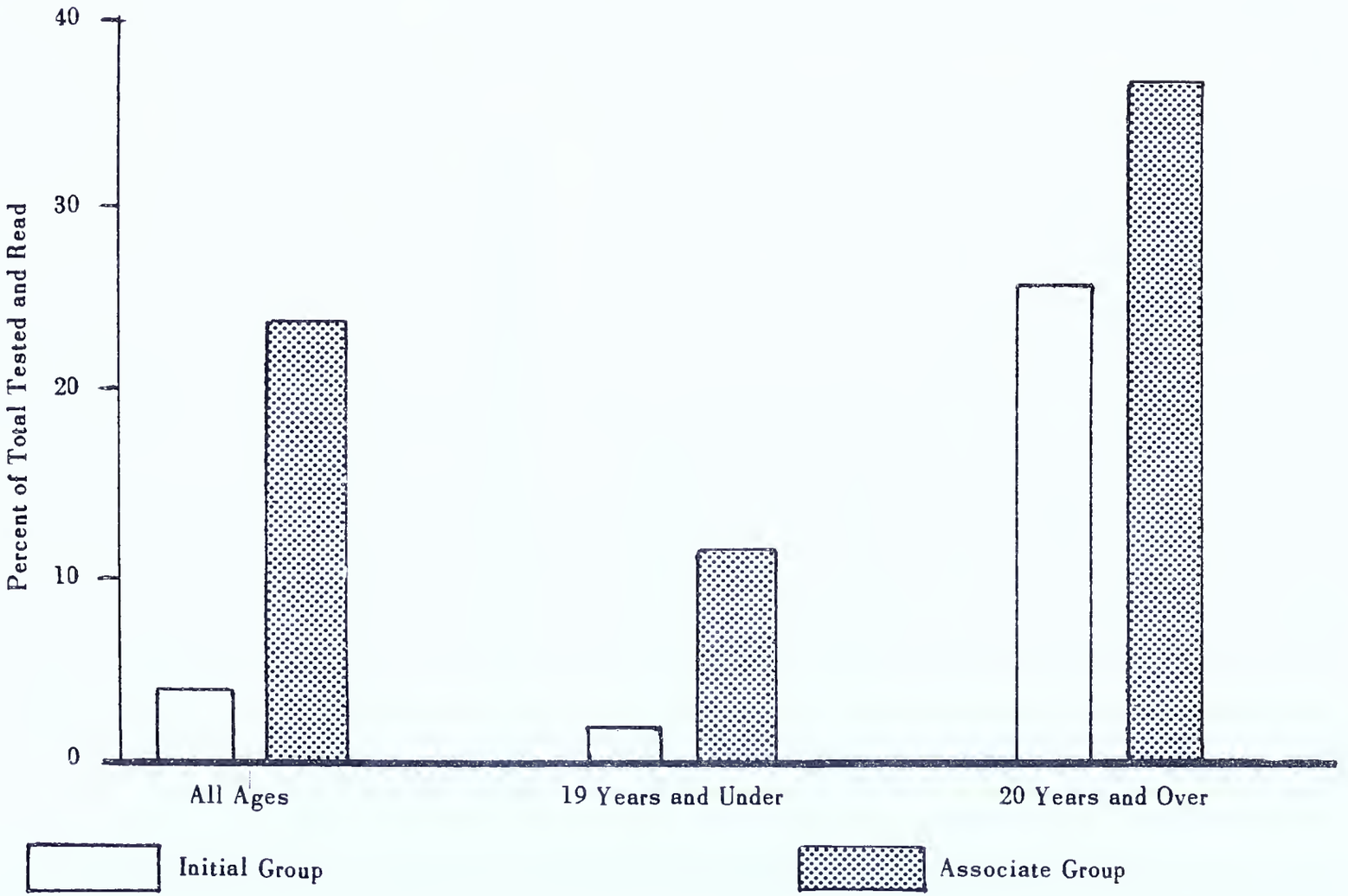


Chart 17

PERCENT OF TUBERCULIN REACTORS FOR THOSE 19 YEARS AND UNDER, AND THOSE 20 YEARS AND OVER, INITIAL AND ASSOCIATE GROUPS, PENNSYLVANIA, 1957-1961

Among the initial group tested the percentage of reactors for those 19 years and under was 1.7%, while for those 20 years and older the percentage was 25.3%. For the associates the percentage of reactors for those 19 years and under was 11.7%, and for those 20 years and older the percentage was 36.3%.

For the initial group, those 19 years and under accounted for 93.2% of the total tested, and 47.7% of the reactors fell within this age group, while the 20 years and older group comprised only 6.8% of the total, with 52.3% of the reactors.

For the associate group, those 19 years and under accounted for 54.6% of the total tested, and only 28.6% of the reactors fell within this age group, while the 20 years and older group comprised 45.4% of the total, with 71.4% of the reactors.

Much more difficulty has been experienced in locating and testing the associates of the reactors of the school groups tested than in doing the initial tests.

AGE	INITIAL GROUP				ASSOCIATE GROUP			
	Number Tested	Percent Tested	Number of Reactors	Percent of Reactors	Number Tested	Percent Tested	Number of Reactors	Percent of Reactors
19 and under	257,951	93.2%	4,362	47.7%	1,824	54.6%	221	28.6%
20 and over	18,865	6.8%	4,774	52.3%	1,519	45.4%	551	71.4%
Totals	276,816	100.0%	9,136	100.0%	3,343	100.0%	771	100.0%

Overall Reactor Percentage

Initial Group – 3.2%

Associate Group – 23.1%

Percent of Tuberculin Reactors By Sex and Race for Those 19 Years and Under, and Those 20 Years and Over, Initial and Associate Groups, Pennsylvania, 1957-1961

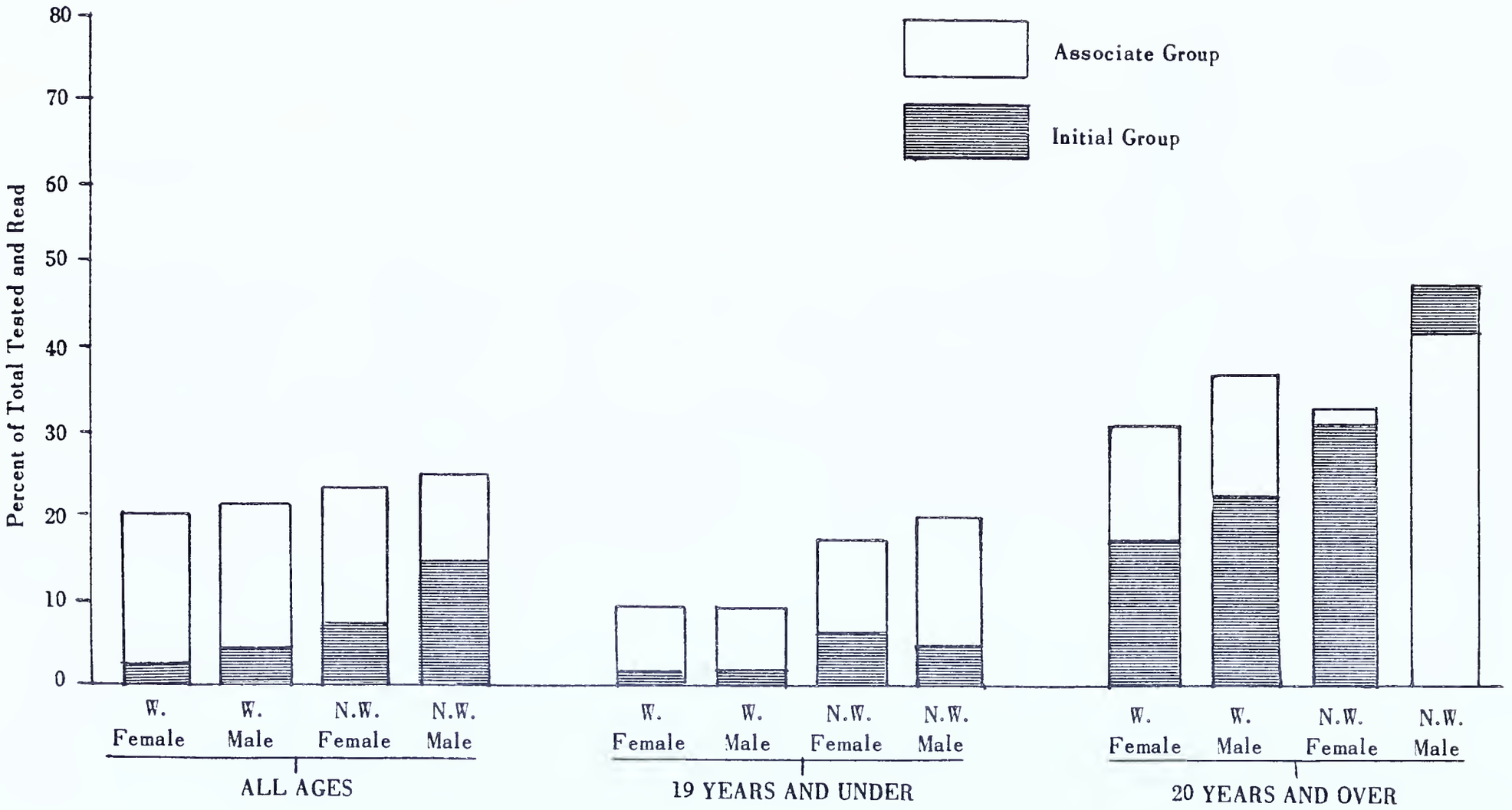


Chart 19

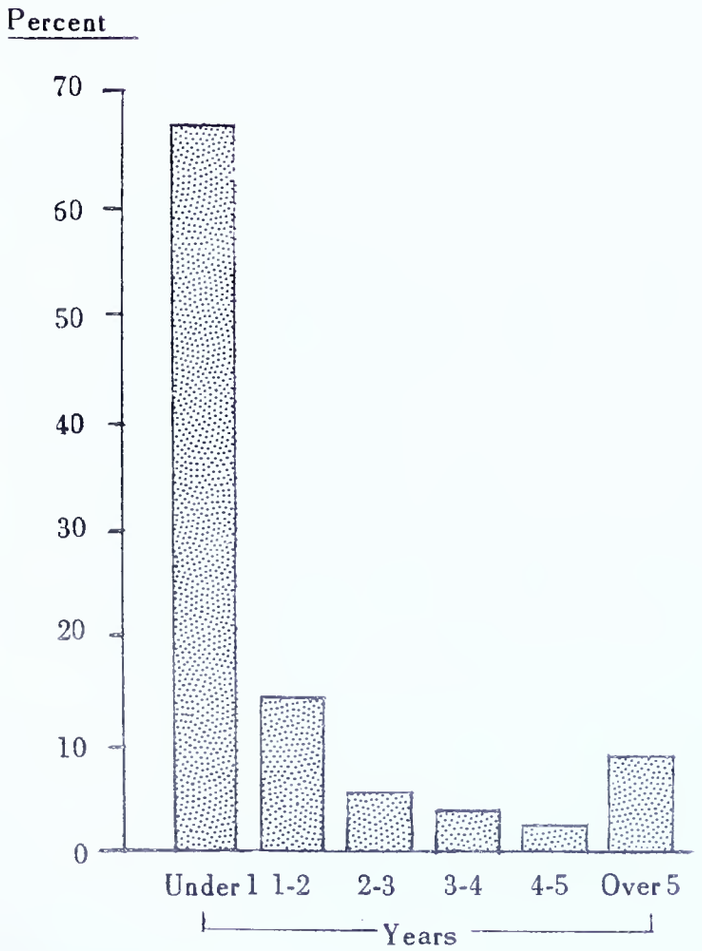
PERCENT OF TUBERCULIN REACTORS BY SEX AND RACE FOR THOSE 19 YEARS AND UNDER, AND THOSE 20 YEARS AND OVER, INITIAL AND ASSOCIATE GROUPS, PENNSYLVANIA, 1957-1961

The race-sex distribution of tuberculin reactors, regardless of age, shows the percentages for the non-whites to be much higher than for whites. The percentages for males in both age groups were much higher than for females. As would be expected, the percentages for those 19 years and under were not as great as for those 20 years and over. This was found to be true in both the initial group and the associate group, regardless of race.

	INITIAL GROUP	ASSOCIATE GROUP
Age - Sex - Race	Percent of Tuberculin Reactors	Percent of Tuberculin Reactors
White Female	2.2%	20.7%
19 and under	1.2%	9.6%
20 and over	17.6%	31.5%
White Male	2.8%	21.7%
19 and under	1.4%	9.0%
20 and over	22.8%	37.7%
Non-white Female	2.8%	21.7%
19 and under	6.2%	16.8%
20 and over	32.1%	32.7%
Non-white Male	15.5%	25.8%
19 and under	4.1%	20.0%
20 and over	48.6%	42.9%

Tuberculosis Hospitals – Occupied Beds and Length of Stay of Patients Discharged, Pennsylvania

Years in Hospital on June 1, 1961



Average Days in Hospital - Discharged Patients

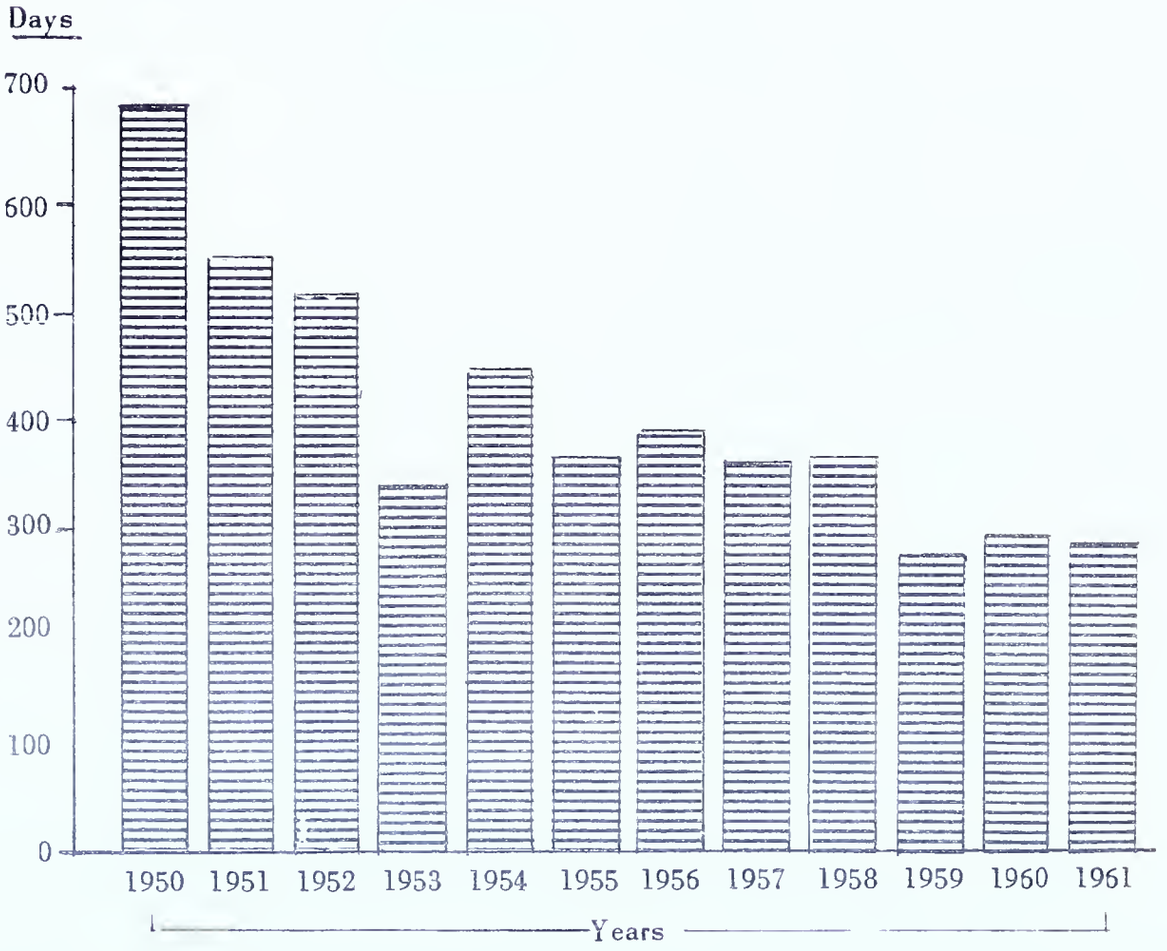


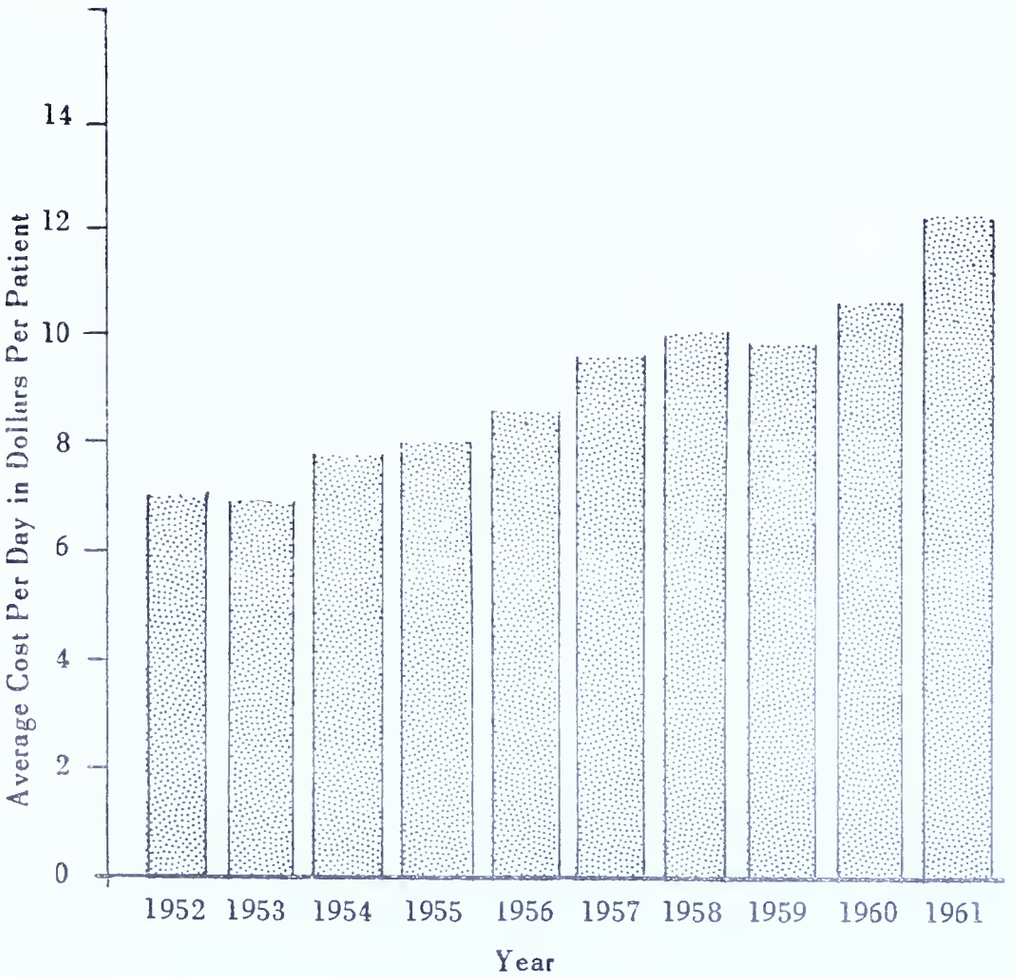
Chart 19

TUBERCULOSIS HOSPITALS - OCCUPIED BEDS AND LENGTH OF STAY OF PATIENTS DISCHARGED, PENNSYLVANIA

In the four State tuberculosis hospitals over two-thirds of the patients had been occupying beds for less than one year on June 1, 1961; three-fourths of them had been in the hospital less than two years. However, about ten percent of the patients had been continuously in the hospital for more than 4 years, with 8 percent of them in from 2-4 years. Tuberculosis hospital beds are occupied chiefly by patients who have been there less than twelve months.

In 1950, the average length of stay of adult patients being discharged from the hospital was 682 days. In 1961, this had fallen to 274 days, a drop of 61.2 percent. In 1950, the length of stay of patients under 16 years of age who were being discharged from the hospital was 411 days, while in 1961 this had fallen to 242 days.

Cost Per Patient Per Day, Tuberculosis Hospitals
Pennsylvania 1952 - 1961



Total Cost Per Day, Tuberculosis Hospitals
Pennsylvania 1952 - 1961

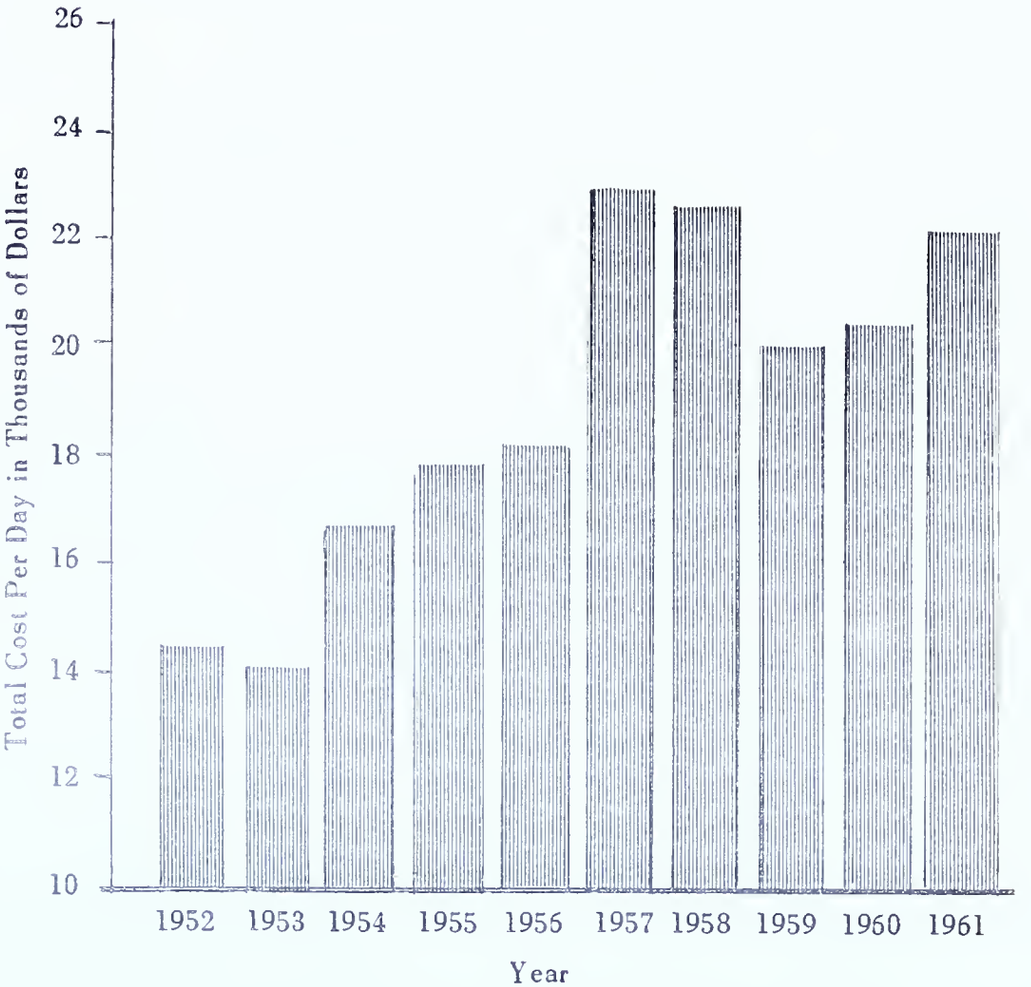


Chart 20

EXPENDITURES FOR STATE TUBERCULOSIS HOSPITALIZATION PENNSYLVANIA, 1952-1961

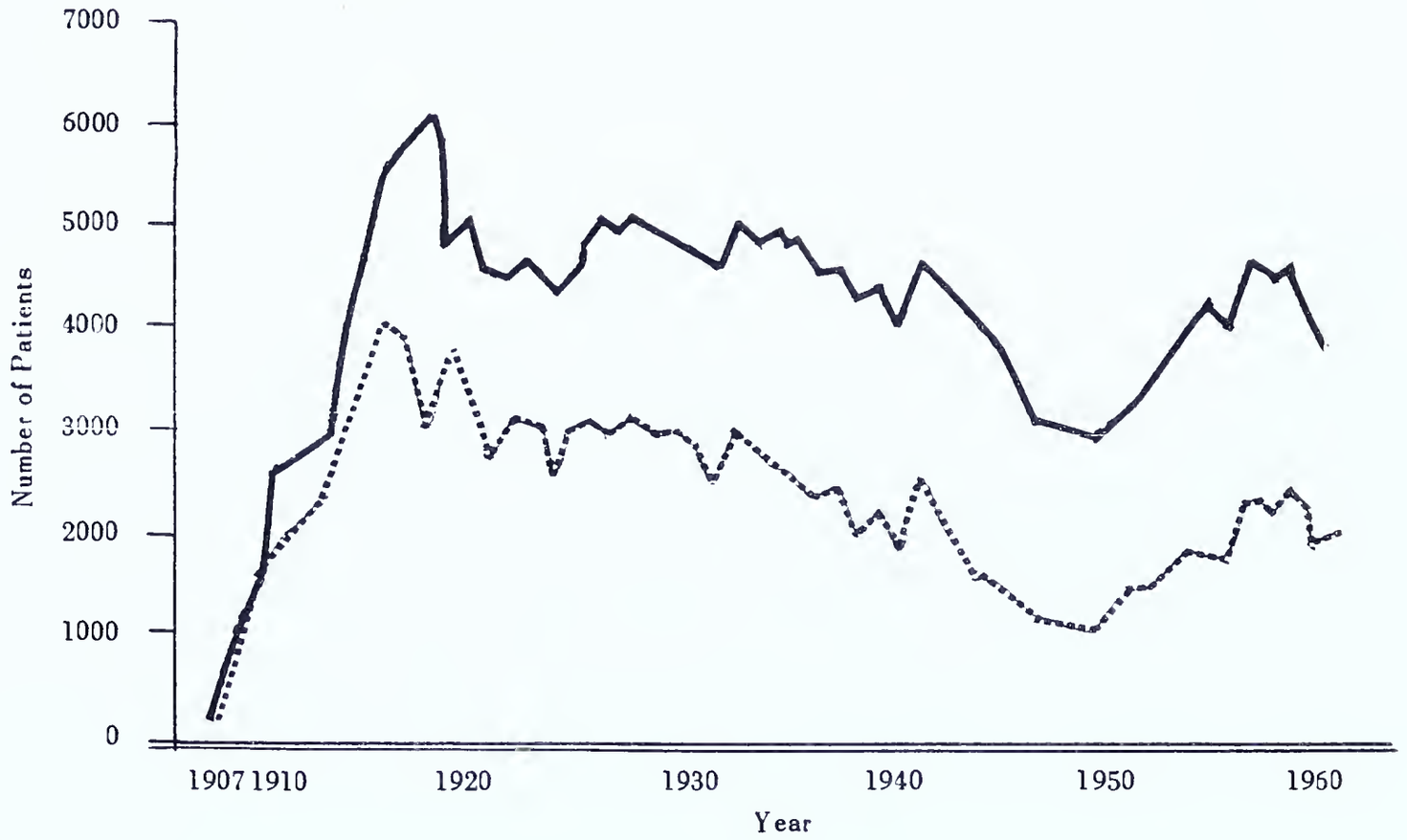
In 1952, there were 2,032 tuberculosis patients in three State tuberculosis hospitals. The average cost per patient day was $6.96. The total expenditure per day was about $14,435. In 1961, there were 1,809 tuberculosis patients hospitalized in four State tuberculosis hospitals. The average cost per patient day had increased to $12.30. The total expenditure per day in 1961 had increased to $22,250.70.

In the past nine years the average cost per patient day has increased by approximately 8.5 percent per year. During the same period the total daily expenditures have increased on the average of 6.0 percent per year.

There were three State tuberculosis hospitals operating in 1952 and 1953. In 1954 this number was increased to four. In 1956 a fifth hospital was acquired for the treatment of tuberculosis patients. Since the transfer of one hospital to the Department of Public Welfare in December 1958, four State tuberculosis hospitals have been continued under operation by the Commonwealth.

YEAR	AVERAGE NUMBER OF PATIENTS IN HOSPITAL	AVERAGE COST PER PATIENT-DAY	AVERAGE TOTAL DAILY EXPENDITURES
1952	2,074	$ 6.96	$14,435.04
1953	2,082	$ 6.81	$14,178.42
1954	2,157	$ 7.75	$16,716.75
1955	2,213	$ 8.09	$17,903.17
1956	2,122	$ 8.61	$18,270.42
1957	2,388	$ 9.59	$22,900.92
1958	2,239	$10.12	$22,658.68
1959	2,038	$ 9.88	$20,135.44
1960	1,900	$10.77	$20,463.00
1961	1,809	$12.30	$22,250.70

Patients Admitted and Treated, Annually, State Tuberculosis Hospitals, Pennsylvania, 1907 - 1961



KEY:

Total Patients Treated Annually – Pennsylvania State Tuberculosis Hospitals

Total Patients Admitted Annually – Pennsylvania State Tuberculosis Hospitals

Chart 21

PATIENTS ADMITTED AND TREATED, ANNUALLY, STATE TUBERCULOSIS HOSPITALS PENNSYLVANIA, 1907 - 1961

On July 25, 1907, the first State tuberculosis hospital, the Samuel G. Dixon State Hospital, was opened at South Mountain. The following additional hospitals were later constructed or acquired:

Lawrence F. Flick State Hospital, Cresson	-	January 1, 1913
Charles H. Miner State Hospital, Hamburg	-	October 24, 1914
Henry R. Landis State Hospital, Philadelphia	-	October 1, 1952
C. Howard Marcy State Hospital, Pittsburgh	-	January 1, 1957

On December 16, 1959, the hospital at Hamburg was transferred to the Department of Public Welfare and the Annex of the hospital at South Mountain was returned by the Department of Pubic Welfare to the Department of Health, for the treatment of tuberculosis patients. This resulted in a net loss of 235 beds for the care of tuberculosis patients. The bed capacity of the four remaining hospitals at the end of 1961 was 2,486 beds.

The annual admissions to the State tuberculosis hospitals reached a peak of 4,048 patients in 1916, with the highest total patients treated in any one year of 6,076 in 1917. From then until 1949, the number of admissions and patients treated in State tuberculosis hospitals fell gradually to a low of 1,280 and 3,090, respectively. Since then both the admissions and patients treated have continued to rise each year through 1959 when these reached the approximate levels of 1940. In the past two years there has been a very slight downward trend for new admissions and for the total number of patients treated, annually.

Between 1954 and 1961 seven private hospitals and three county sanatoria which had been treating tuberculosis patients were closed with a loss of 963 beds for the treatment of these patients. Two other hospitals reduced their beds available to tuberculosis from 497 to 390 beds. The loss of these beds has accounted in part for the rise in admissions to State tuberculosis hospitals.